

L Number	Hits	Search Text	DB	Time stamp
1	2366	("514/183,252.12").CCLS	USPAT	2003/11/17 16:57
2	1117	("544/336,387").CCLS	USPAT	2003/11/17 16:57
3	39	("514/183,252.12").CCLS) and ("544/336,387").CCLS)	USPAT	2003/11/17 16:57

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NEWS 2	"Ask CAS" for self-help around the clock
NEWS 3 SEP 09	CA/CAPplus records now contain indexing from 1907 to the present
NEWS 4 AUG 05	New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
NEWS 5 AUG 13	Field Availability (/FA) field enhanced in BEILSTEIN
NEWS 6 AUG 18	Data available for download as a PDF in RDISCLOSURE
NEWS 7 AUG 18	Simultaneous left and right truncation added to PASCAL
NEWS 8 AUG 18	FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation
NEWS 9 AUG 18	Simultaneous left and right truncation added to ANABSTR
NEWS 10 SEP 22	DIPPR file reloaded
NEWS 11 SEP 25	INPADOC: Legal Status data to be reloaded
NEWS 12 SEP 29	DISSABS now available on STN
NEWS 13 OCT 10	PCTFULL: Two new display fields added
NEWS 14 OCT 21	BIOSIS file reloaded and enhanced
NEWS 15 OCT 28	BIOSIS file segment of TOXCENTER reloaded and enhanced
NEWS EXPRESS	NOVEMBER 14 CURRENT WINDOWS VERSION IS V6.01c, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
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ENTRY	SESSION

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<11/18/2003>

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0.21

0.21

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STRUCTURE FILE UPDATES: 16 NOV 2003 HIGHEST RN 617673-49-1
DICTIONARY FILE UPDATES: 16 NOV 2003 HIGHEST RN 617673-49-1

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=>

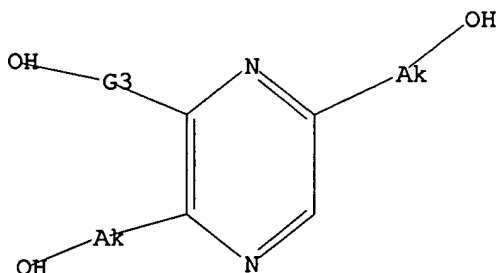
Uploading 09903092.12

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 Cb,Cy

G2 H,OH

G3 H,Ak

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 07:39:31 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 6351 TO ITERATE

Patel

<11/18/2003>

15.7% PROCESSED 1000 ITERATIONS 1 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 122244 TO 131796
PROJECTED ANSWERS: 1 TO 278

L2 1 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 07:39:37 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 126768 TO ITERATE

100.0% PROCESSED 126768 ITERATIONS 31 ANSWERS
SEARCH TIME: 00.00.03

L3 31 SEA SSS FUL L1

=> file caold
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 148.15 148.36

FILE 'CAOLD' ENTERED AT 07:39:47 ON 17 NOV 2003
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FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REGlSTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> s l1
REGlSTRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 07:39:52 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 6351 TO ITERATE

15.7% PROCESSED 1000 ITERATIONS 1 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 122244 TO 131796
PROJECTED ANSWERS: 1 TO 278

L4 1 SEA SSS SAM L1

L5 0 L4

=> file marpat s l1

'S' IS AN AMBIGUOUS FILE OR CLUSTER NAME

SAFETY	- Occupational Health and Safety Cluster
SESSION	- Current files with L-numbers Cluster
STRUCTURE	- Structure Searching Cluster
SUPPLIERS	- Product Directories and Suppliers Cluster
SCISEARCH	- ISI Science Citation Index from 1974 - present
SIGLE	- Grey Literature in Europe from 1976 - present
SOLIDSTATE	- Solid State and Superconductivity Abstracts from 1981
SOLIS	- German literature in social sciences 1945-present
SPECINFO	- Spectral Database Information System
STANDARDS	- The International Standards Database
STNGUIDE	- Descriptive information about STN databases
STNMAIL	- STN Electronic Mail Service
SWETSCAN	- Swets Table of Contents from 1993 - present
SYNTHLINE	- Synthline Drug Synthesis Database 1984-present

ENTER FILE OR CLUSTER NAME (IGNORE):file marpat

'FILE' IS NOT A VALID FILE NAME

Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files that are available. If you have requested multiple files, you can specify a corrected file name or you can enter "IGNORE" to continue accessing the remaining file names entered.

ENTER A FILE NAME OR (IGNORE):marpat

'L1' IS NOT A VALID FILE NAME

Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files that are available. If you have requested multiple files, you can specify a corrected file name or you can enter "IGNORE" to continue accessing the remaining file names entered.

ENTER A FILE NAME OR (IGNORE):Marpat

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FULL ESTIMATED COST	0.80	149.96

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FILE CONTENT: 1988-PRESENT (VOL 104 ISS 15-VOL 139 ISS20) (20031114ED)

MOST RECENT CITATIONS FOR PATENTS FROM FIVE MAJOR ISSUING AGENCIES
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US 6632961 14 OCT 2003
 DE 10232663 16 OCT 2003
 EP 1354869 22 OCT 2003
 JP 2003300880 21 OCT 2003
 WO 2003087212 23 OCT 2003

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

=> s 11

SAMPLE SEARCH INITIATED 07:40:59 FILE 'MARPAT'
 SAMPLE SCREEN SEARCH COMPLETED - 884 TO ITERATE

100.0% PROCESSED 884 ITERATIONS 11 ANSWERS
 SEARCH TIME: 00.00.07

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 15975 TO 19385
 PROJECTED ANSWERS: 21 TO 419

L6 11 SEA SSS SAM L1

=> d 16 1-11

L6 ANSWER 1 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 139:292094 MARPAT
 TI Preparation of substituted tetracycline compounds for the treatment of bacterial infections and neoplasms
 IN Nelson, Mark L.; Ohemeng, Kwasi; Frechette, Roger; Abato, Paul; Assefa, Haregewein; Bandarage, Upul; Berniac, Joel; Bhatia, Beena; Chen, Jackson; Ismail, Mohamed Y.; Kim, Oak A.; Mathews, Jude; McIntyre, Laura; Nihlawi, Mohammed; Pearson, Andre; Reddy, Laxma; Sheahan, Paul; Sizensky, Emmanuelle; Tourigny, Justin; Verma, Atul K.; Viski, Peter; Warchol, Tadeusz
 PA Paratek Pharmaceuticals, Inc., USA
 SO PCT Int. Appl., 118 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003079984	A2	20031002	WO 2003-US8324	20030318
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI US 2002-366915P		20020321		
US 2002-367045P		20020321		

US 2002-367048P 20020321
 US 2002-395468P 20020712
 US 2003-440305P 20030114

L6 ANSWER 2 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 139:261323 MARPAT
 TI Preparation of aminocarbonyl derivatives as inhibitors of histone deacetylase
 IN Van Emelen, Kristof; De Winter, Hans Louis Jos; Dyatkin, Alexey Borisovich; Verdonck, Marc Gustaaf Celine; Meerpoel, Lieven
 PA Janssen Pharmaceutica N.V., Belg.
 SO PCT Int. Appl., 58 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003076421	A1	20030918	WO 2003-EP2511	20030311
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRAI US 2002-363799P 20020313

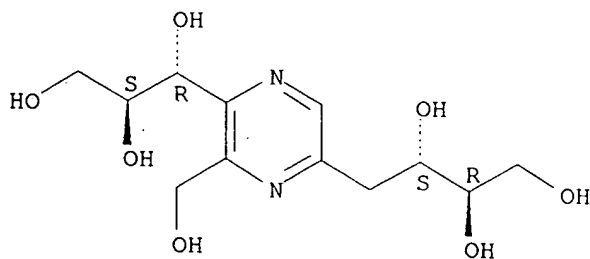
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 137:20297 MARPAT
 TI Preparation of ortho-substituted and meta-substituted bisaryl compounds as potassium channel blockers
 IN Peukert, Stefan; Brendel, Joachim; Hemmerle, Horst; Kleemann, Heinz-Werner
 PA Aventis Pharma Deutschland GmbH, Germany
 SO PCT Int. Appl., 67 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002044137	A1	20020606	WO 2001-EP13294	20011117
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

L7 ANSWER 16 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1986:570812 CAPLUS
 DN 105:170812
 TI Identification of novel non-volatile pyrazines in commercial caramel colors.
 AU Tsuchida, Hironobu; Morinaka, Keizo; Fujii, Satoshi; Komoto, Masahiko; Mizuno, Susumu
 CS Dep. Agric. Chem., Univ. Kobe, Kobe, 657, Japan
 SO Developments in Food Science (1986), 13(Amino-Carbonyl React. Food Biol. Syst.), 85-94
 CODEN: DFSCDX; ISSN: 0167-4501
 DT Journal
 LA English
 IT 104670-20-4 104670-21-5 104670-31-7
 104670-34-0 104670-37-3 104670-38-4
 104696-24-4
 RL: BIOL (Biological study)
 (of ammonia caramel color)
 RN 104670-20-4 CAPLUS
 CN 1,2,3-Butanetriol, 4-[6-(hydroxymethyl)-5-(1,2,3-trihydroxypropyl)pyrazinyl]-, [2R-[2R*,3S*(1R*,2S*)]]- (9CI) (CA INDEX NAME)

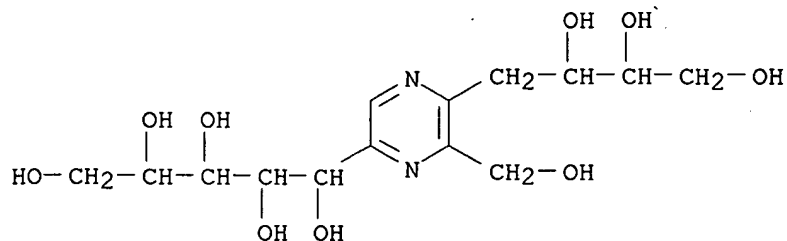
Absolute stereochemistry.



Patel

<11/18/2003>

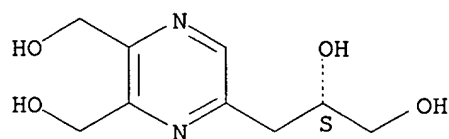
RN 104670-21-5 CAPLUS

CN Pentitol, 1-C-[6-(hydroxymethyl)-5-(2,3,4-trihydroxybutyl)pyrazinyl]-
(9CI) (CA INDEX NAME)

RN 104670-31-7 CAPLUS

CN 2,3-Pyrazinedimethanol, 5-(2,3-dihydroxypropyl)-, (S)- (9CI) (CA INDEX NAME)

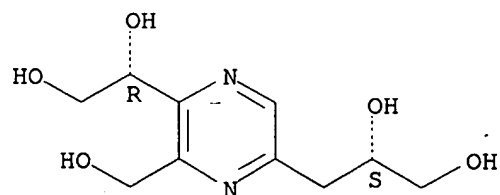
Absolute stereochemistry.



RN 104670-34-0 CAPLUS

CN 2,3-Pyrazinedimethanol, 5-(2,3-dihydroxypropyl)-.alpha.2-(hydroxymethyl)-, (R-(R*,S*))- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



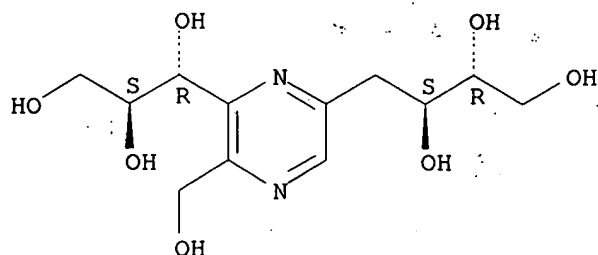
RN 104670-37-3 CAPLUS

CN 1,2,3-Butanetriol, 4-[5-(hydroxymethyl)-6-(1,2,3-trihydroxypropyl)pyrazinyl]-, [1R-[1R*(2R*,3S*),2S*]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

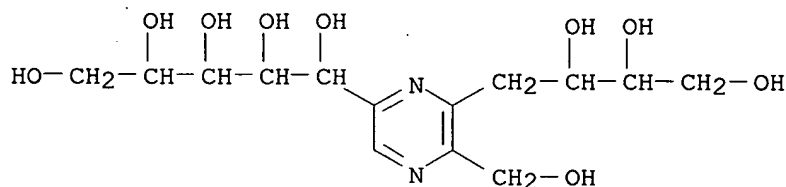
Patel

<11/18/2003>



RN 104670-38-4 CAPLUS

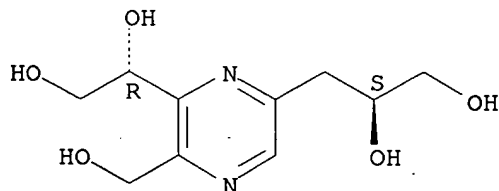
CN Pentitol, 1-C-[5-(hydroxymethyl)-6-(2,3,4-trihydroxybutyl)pyrazinyl]-
(9CI) (CA INDEX NAME)



RN 104696-24-4 CAPLUS

CN 2,3-Pyrazinedimethanol, 5-(2,3-dihydroxypropyl)-.alpha.3-(hydroxymethyl)-,
[R-(R*,S*)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



AB Gas chromatog.-mass-spectrometric analyses of trimethylsilyl derivs. of the nonvolatile pyrazine fraction obtained by an ion exchange method demonstrated the presence of 25 polyhydroxyalkylpyrazines in an ammonia caramel color and of 17 polyhydroxyalkylpyrazines in a sulfite-ammonia caramel color. Three novel nonvolatile pyrazines of the latter were isolated by preparative ion exchange- and paper chromatog., and identified as 2-tetrahydroxybutyl-6-(3',4'-dihydroxy-1'-butenyl)pyrazine [104670-24-8], 2-(2',3'-dihydroxytetrahydrofuran-1'-yl)-6-(2'',3'',4'',5''-tetrahydroxybutyl)pyrazine [104670-25-9] and 2-tetrahydroxybutyl-6-(2',3'-dihydroxytetrahydrofuran-1'-yl)pyrazine [104696-21-1]. A possible formation pathway of the novel pyrazines was proposed.

L7 ANSWER 17 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:225908 CAPLUS

DN 102:225908

TI Degradation of clavulanic acid in aqueous alkaline solution: Disolation of clavulanic acid and structural investigation of degradation products

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<11/18/2003>

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 NEWS 8 AUG 18 FROSTI and KOSMET enhanced with Simultaneous Left and Right
 Truncation
 NEWS 9 AUG 18 Simultaneous left and right truncation added to ANABSTR
 NEWS 10 SEP 22 DIPPR file reloaded
 NEWS 11 SEP 25 INPADOC: Legal Status data to be reloaded
 NEWS 12 SEP 29 DISSABS now available on STN
 NEWS 13 OCT 10 PCTFULL: Two new display fields added
 NEWS 14 OCT 21 BIOSIS file reloaded and enhanced
 NEWS 15 OCT 28 BIOSIS file segment of TOXCENTER reloaded and enhanced

 NEWS EXPRESS NOVEMBER 14 CURRENT WINDOWS VERSION IS V6.01c, CURRENT
 MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
 AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
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FILE 'HOME' ENTERED AT 11:24:58 ON 14 NOV 2003

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

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<11/14/2003>

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STRUCTURE FILE UPDATES: 13 NOV 2003 HIGHEST RN 616855-37-9
DICTIONARY FILE UPDATES: 13 NOV 2003 HIGHEST RN 616855-37-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

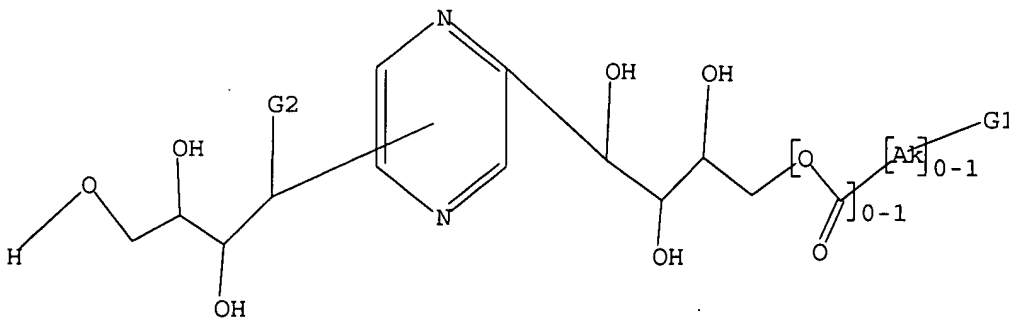
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STN Note 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=>
Uploading 09903092.6

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1 Cb,Cy
G2 H,OH

Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss full
FULL SEARCH INITIATED 11:25:31 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 456 TO ITERATE

100.0% PROCESSED 456 ITERATIONS
SEARCH TIME: 00.00.01

0 ANSWERS

Patel

<11/14/2003>

L2 0 SEA SSS FUL L1

=> file marpat

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

148.15

148.36

FILE 'MARPAT' ENTERED AT 11:25:38 ON 14 NOV 2003

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FILE CONTENT: 1988-PRESENT (VOL 104 ISS 15-VOL 139 ISS19) (20031107ED)

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(COVERAGE TO THESE DATES IS NOT COMPLETE):

US 6632922 14 OCT 2003

DE 20300703 09 OCT 2003

EP 1352910 15 OCT 2003

JP 2003288905 10 OCT 2003

WO 2003084330 16 OCT 2003

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

=> s l1 sss full

FULL SEARCH INITIATED 11:25:45 FILE 'MARPAT'

FULL SCREEN SEARCH COMPLETED - 4812 TO ITERATE

100.0% PROCESSED 4812 ITERATIONS (1 INCOMPLETE)

2 ANSWERS

SEARCH TIME: 00.00.22

L3 2 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

104.55

252.91

FILE 'CAPLUS' ENTERED AT 11:26:17 ON 14 NOV 2003

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FILE COVERS 1907 - 14 Nov 2003 VOL 139 ISS 21

FILE LAST UPDATED: 13 Nov 2003 (20031113/ED)

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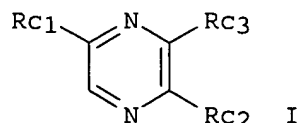
=> s 13

L4 2 L3

=> d 14 fbib hitstr abs total

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1999:77553 CAPLUS
 DN 130:139362
 TI Preparation of polyhydroxyalkylpyrazines as hypoglycemics
 IN Bouchard, Herve; Commercon, Alain; Peyronel, Jean-Francois; Terrier, Corinne
 PA Rhone-Poulenc Rorer S.A., Fr.
 SO PCT Int. Appl., 182 pp.
 CODEN: PIXXD2
 DT Patent
 LA French
 FAN.CNT 1

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PI WO 9903843	A1	19990128	WO 1998-FR1545	19980715
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RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FR 2766185	A1	19990122	FR 1997-9186	A 19970718
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			WO 1998-FR1545 W	19980715
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RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:752225 CAPLUS

DN **130:3854**

TI Preparation of N-(aminohydroxyalkyl)quinazoliniones and analogs as glycan phosphatidylinositol cellular signaling inhibitors

IN Kumar, Anil M.; Michnick, John; Underiner, Gail E.; Klein, J. Peter; Rice, Glenn C.

PA Cell Therapeutics Inc, USA

SO U.S., 76 pp., Cont.-in-part of U. S. Ser. No. 40820, abandoned.
CODEN: USXXAM

DT Patent

LA English

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PATENT FAMILY INFORMATION:

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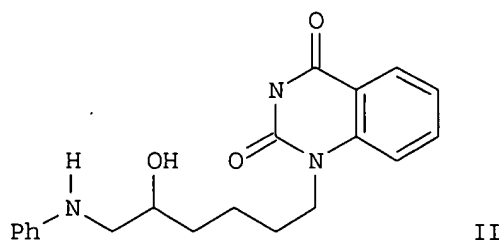
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OS MARPAT 130:3854
 GI



AB Title compds. (I) comprising a core moiety (sic) having 1-3 (CH₂)_mCH(OR₃)(CH₂)_nNR₁R₂ substituents [R₁,R₂ = H, alk(en)yl, (un)substituted aralkyl; NR₁R₂ = heterocyclyl; R₃ = H, C1-3 (sic), N-(un)substituted oxazcycloalkylalkyl; m = 1-14; n = 1-4] were prepd. Thus, 2,4-(1H,3H)-quinazolin-2-one was 1-methylated and the product N-alkylated by Br(CH₂)₄CH₂ to give, in 3 addnl. steps, 3-(5,6-epoxyhexyl)-1-methyl-2,4-(1H,3H)-quinazolin-2-one which was aminated by PhCH₂NH₂ to give title compd. II. Data for biol. activity of I were given.

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
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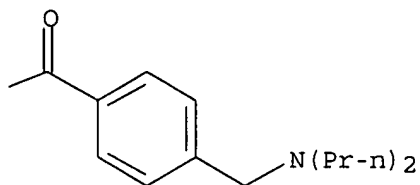
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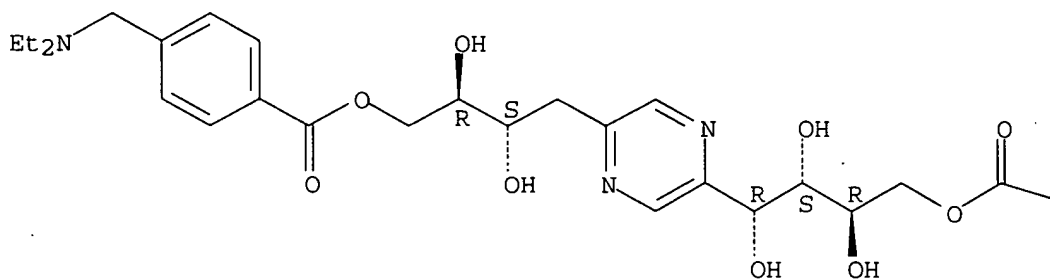


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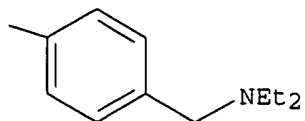
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Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

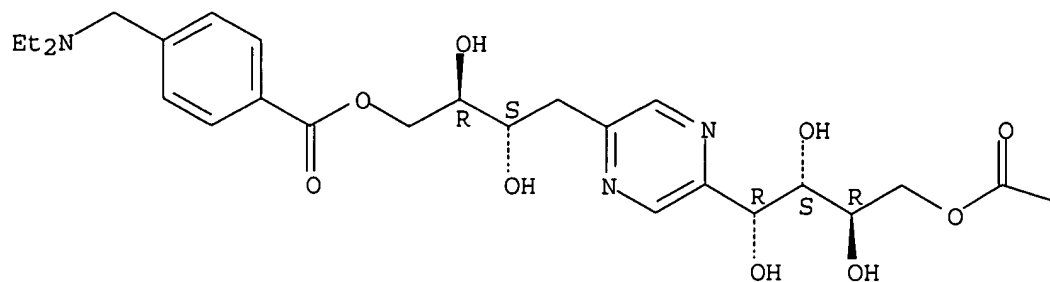


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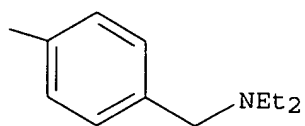
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PAGE 1-B

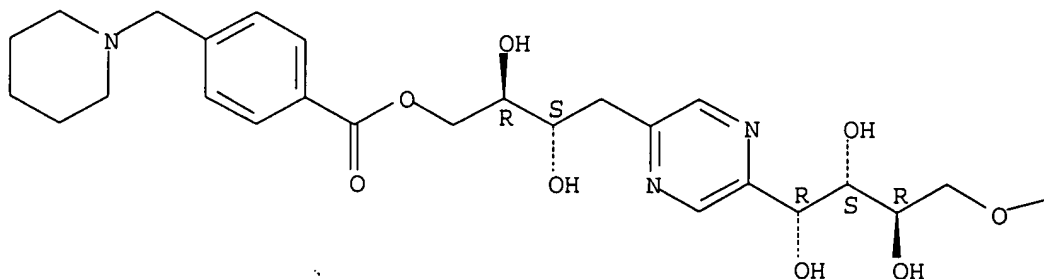


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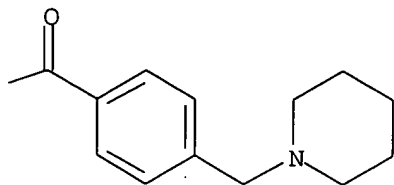
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Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

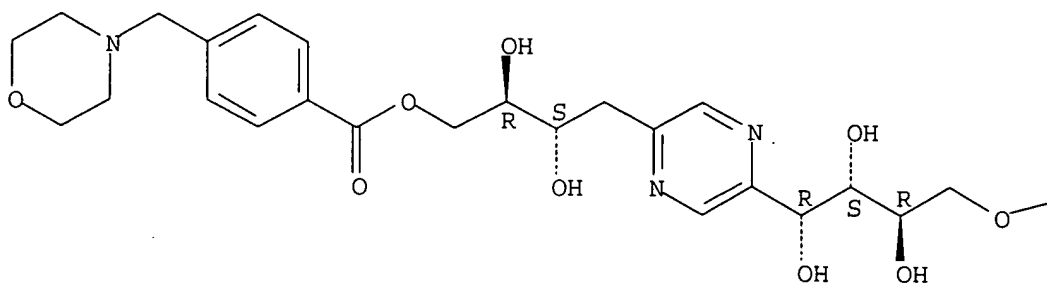


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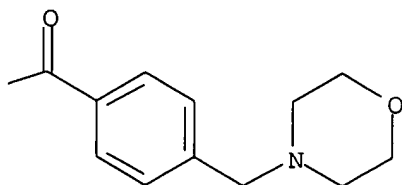
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Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

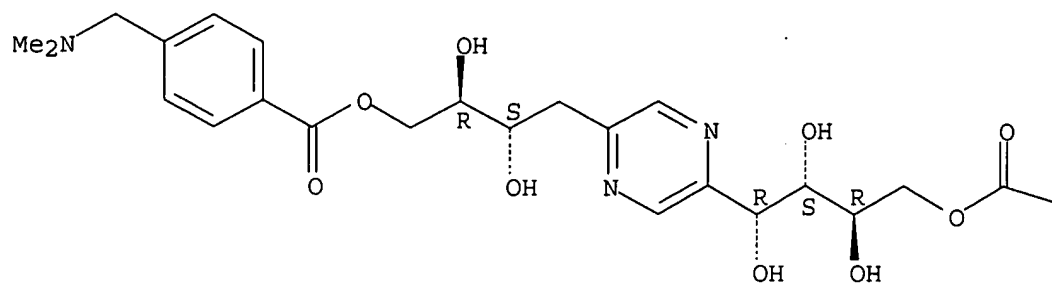


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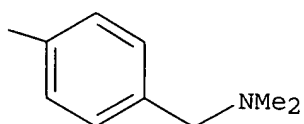
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Absolute stereochemistry.

PAGE 1-A



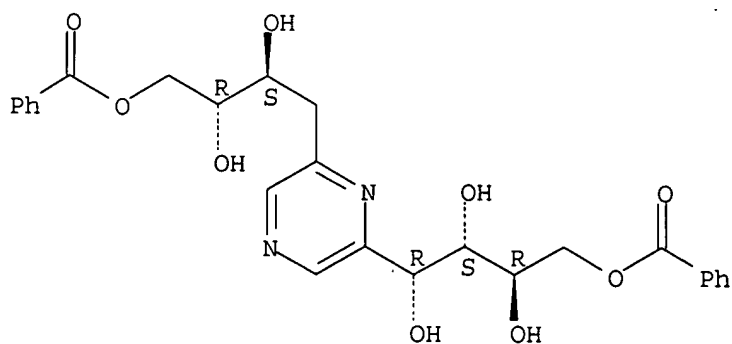
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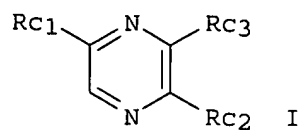
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CN 1,2,3,4-Butanetetrol, 1-[6-[(2S,3R)-4-(benzoyloxy)-2,3-dihydroxybutyl]pyrazinyl]-, 4-benzoate, (1R,2S,3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



GI



Patel

<11/14/2003>

AB Title compds. [I; Rc1 = CH(OR4)CH(OR3)CH(OR2)CH2OR1 and Rc2 = e.g., CH(OR5)CH(OR6)CH(OR7)CH2OR8 and Rc3 = H; R1-R8 = COR9, CO2R10, CH2O2CR13, etc.; R9 = H, alkyl, NH2, etc.; R10 = (ar)alkyl, aryl; R13 = H, (ar)alkyl, aryl] were prepd. Thus, deoxyfructosazine was treated with BzCl to give 4,4'-O,O-dibenzoyl-2-[(1R,2S,3R)-1,2,3,4-tetrahydroxybutyl]-5-[(2'S,3'R)-2,3,4-trihydroxybutyl]pyrazine. Data for biol. activity of I were given.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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STRUCTURE FILE UPDATES: 13 NOV 2003 HIGHEST RN 616855-37-9
DICTIONARY FILE UPDATES: 13 NOV 2003 HIGHEST RN 616855-37-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=>
Uploading 09903092.5

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

=> file marpat

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.40	0.61

FILE 'MARPAT' ENTERED AT 11:19:32 ON 14 NOV 2003
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FILE CONTENT: 1988-PRESENT (VOL 104 ISS 15-VOL 139 ISS19) (20031107ED)

MOST RECENT CITATIONS FOR PATENTS FROM FIVE MAJOR ISSUING AGENCIES
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US	6632922	14 OCT 2003
DE	20300703	09 OCT 2003
EP	1352910	15 OCT 2003
JP	2003288905	10 OCT 2003
WO	2003084330	16 OCT 2003

Structure search limits have been raised. See HELP SLIMIT for the new, higher limits.

=> s l1 sss full

FULL SEARCH INITIATED 11:19:57 FILE 'MARPAT'

FULL SCREEN SEARCH COMPLETED - 1825 TO ITERATE

100.0% PROCESSED 1825 ITERATIONS

2 ANSWERS

SEARCH TIME: 00.00.05

L2 2 SEA SSS FUL L1

=> d l2 fbib hitstr abs total

'HITSTR' IS NOT A VALID FORMAT FOR FILE 'MARPAT'

The following are valid formats:

MSTR ----- All Markush structure(s) and related text information

MSTR(n) -- Markush structure(n) and related text information

IDE ----- AN and MSTR

ABS ----- AB

ALL ----- BIB, AB, IND, RE, and MSTR

APPS ----- AI, PRAI

BIB ----- AN, plus Bibliographic Data and PI table (default)

CAN ----- List of CA abstract numbers without answer numbers

CBIB ----- AN, plus Compressed Bibliographic Data

DALL ----- ALL, delimited (end of each field identified)

DMAX ----- MAX, delimited for post-processing

FAM ----- AN, PI and PRAI in table, plus Patent Family data

FBIB ----- AN, BIB, plus Patent FAM

IND ----- Indexing Data

IPC ----- International Patent Classifications

MAX ----- ALL, plus Patent FAM, RE

PATS ----- PI, SO

SAM ----- CC, SX, TI, ST, IT, and FQHIT

SCAN ----- CC, SX, TI, ST, IT, and FQHIT (random display,
no answer numbers)

STD ----- BIB, IPC, and NCL (standard patent information)

IABS ----- ABS, indented with text labels

IALL ----- ALL, indented with text labels

IBIB ----- BIB, indented with text labels

IMAX ----- MAX, indented with text labels

ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)

OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations

SIBIB ----- IBIB, no citations

HIT ----- Fields containing hit text terms and the Markush
structures containing the query structure

FHIT ----- Fields containing the first hit text terms and the first
Markush structures containing the query structure

QHIT ----- Fields containing query focus hit text terms and the
Markush structures containing the query structure

FQHIT ---- Fields containing the first query focus hit text terms and
the first Markush structures containing the query structure

To display a particular field or fields, enter the display field
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at an arrow prompt (=>). Examples of formats include: "TI";
"TI,MSTR,ABS"; "BIB,ST"; "TI,IND"; "TI,SO". You may specify the
format fields in any order and the information will be displayed
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be used with the DISPLAY ACC command to display the record for a
specified Accession Number.

ENTER DISPLAY FORMAT (BIB):BIB

L2 ANSWER 1 OF 2 MARPAT COPYRIGHT 2003 ACS on STN

AN 133:120345 MARPAT

TI Preparation of pyrazinylhydroxyalkyl alkanoates as hypoglycemic agents

IN Bouchard, Herve; Commercon, Alain

PA Aventis Pharma, Fr.

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

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	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
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	NO 2001003416	A	20010906	NO 2001-3416	20010710
	ZA 2001005657	A	20021010	ZA 2001-5657	20010710
	US 2002077324	A1	20020620	US 2001-903092	20010711
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	WO 2000-FR26		20000107		

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 2 MARPAT COPYRIGHT 2003 ACS on STN

AN 130:139362 MARPAT

TI Preparation of polyhydroxyalkylpyrazines as hypoglycemics

IN Bouchard, Herve; Commercon, Alain; Peyronel, Jean-Francois; Terrier, Corinne

PA Rhone-Poulenc Rorer S.A., Fr.
 SO PCT Int. Appl., 182 pp.
 CODEN: PIXXD2
 DT Patent
 LA French
 FAN.CNT 1

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	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
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	AU 9888105	A1	19990210	AU 1998-88105	19980715
	EP 1001943	A1	20000524	EP 1998-939679	19980715
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	ZA 9806330	A	19990208	ZA 1998-6330	19980716
	US 6380197	B1	20020430	US 2000-484343	20000118
PRAI	FR 1997-9186		19970718		
	WO 1998-FR1545		19980715		
RE.CNT	7	THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT			

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
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FULL ESTIMATED COST

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PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	SEP 09	CA/CAPLUS records now contain indexing from 1907 to the present
NEWS	4	AUG 05	New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
NEWS	5	AUG 13	Field Availability (/FA) field enhanced in BEILSTEIN
NEWS	6	AUG 18	Data available for download as a PDF in RDISCLOSURE
NEWS	7	AUG 18	Simultaneous left and right truncation added to PASCAL
NEWS	8	AUG 18	FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation
NEWS	9	AUG 18	Simultaneous left and right truncation added to ANABSTR
NEWS	10	SEP 22	DIPPR file reloaded
NEWS	11	SEP 25	INPADOC: Legal Status data to be reloaded
NEWS	12	SEP 29	DISSABS now available on STN
NEWS	13	OCT 10	PCTFULL: Two new display fields added
NEWS	14	OCT 21	BIOSIS file reloaded and enhanced
NEWS	15	OCT 28	BIOSIS file segment of TOXCENTER reloaded and enhanced
NEWS EXPRESS		NOVEMBER 14	CURRENT WINDOWS VERSION IS V6.01c, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
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FILE 'HOME' ENTERED AT 11:13:43 ON 14 NOV 2003

=> file reg

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SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

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0.21

Patel

<11/14/2003>

FILE 'REGISTRY' ENTERED AT 11:13:53 ON 14 NOV 2003
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STRUCTURE FILE UPDATES: 13 NOV 2003 HIGHEST RN 616855-37-9
DICTIONARY FILE UPDATES: 13 NOV 2003 HIGHEST RN 616855-37-9

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STN Note 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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Uploading 09903092.5

L1 STRUCTURE UPLOADED

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L1 HAS NO ANSWERS
L1 STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED - 8 TO ITERATE

100.0% PROCESSED 8 ITERATIONS 2 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 8 TO 329
PROJECTED ANSWERS: 2 TO 124

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SEARCH TIME: 00.00.01

L3 22 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

148.15

148.36

FILE 'CAPLUS' ENTERED AT 11:14:31 ON 14 NOV 2003

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FILE COVERS 1907 - 14 Nov 2003 VOL 139 ISS 21

FILE LAST UPDATED: 13 Nov 2003 (20031113/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13

L4 2 L3

=> d 14 fbib hitstr abs total

L4 . ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:493531 CAPLUS

DN 133:120345

TI Preparation of pyrazinylhydroxyalkyl alkanoates as hypoglycemic agents

IN Bouchard, Herve; Commercon, Alain

PA Aventis Pharma, Fr.

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000042027	A1	20000720	WO 2000-FR26	20000107
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	RW:				
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OS MARPAT 133:120345

IT **284021-00-7P**

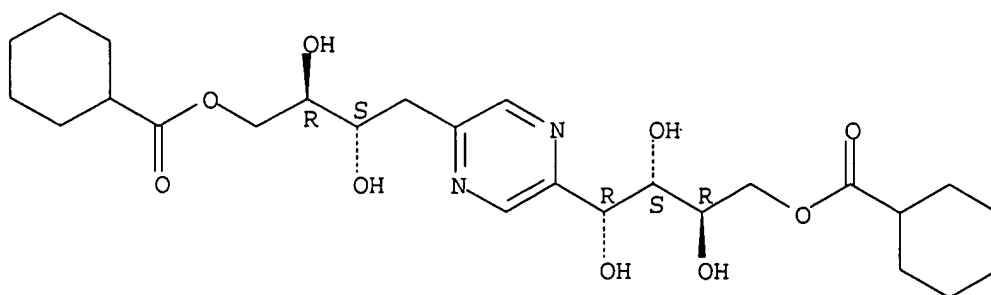
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of pyrazinylhydroxyalkyl alkanoates as hypoglycemic agents)

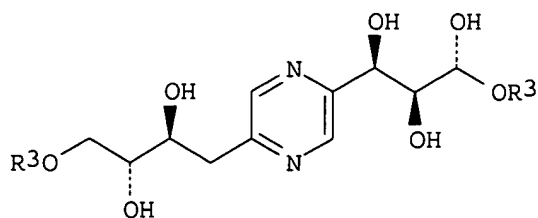
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CN Cyclohexanecarboxylic acid, (2R,3S,4R)-4-[5-[(2S,3R)-4-[(cyclohexylcarbonyl)oxy]-2,3-dihydroxybutyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



GI



I

AB R2ZR1 [I; R1 = [CH(OH)]3CH2O2CR; R2 = CH2[CH(OH)]2CH2O2CR and Z = pyrazine-2,5-diyl; R2 = CH2[CH(OH)]2CH2O2CR or [CH(OH)]3CH2O2CR and Z = pyrazine-2,5-diyl; R = cycloalkyl(alkyl)] were prepd. Thus, polyol II (R3 = H) was esterified by cyclohexanecarbonyl chloride to give II (R3 = cyclohexanecarbonyl). Data for biol. activity of I were given.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:77553 CAPLUS

DN 130:139362

TI Preparation of polyhydroxyalkylpyrazines as hypoglycemics

IN Bouchard, Herve; Commercon, Alain; Peyronel, Jean-Francois; Terrier, Corinne

PA Rhone-Poulenc Rorer S.A., Fr.

SO PCT Int. Appl., 182 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

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WO 1998-FR1545 A119980715

OS MARPAT 130:139362

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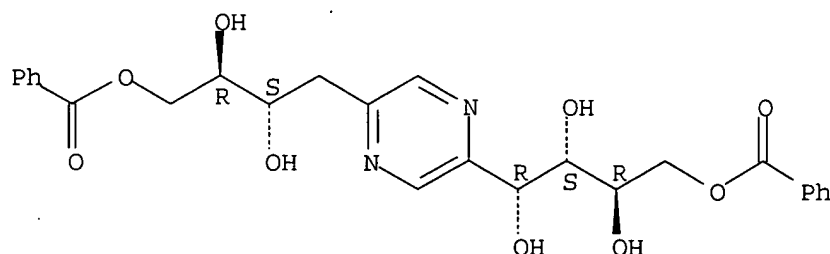
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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (prepn. of polyhydroxyalkylpyrazines as hypoglycemics)

RN 220121-56-2 CAPLUS

CN 1,2,3,4-Butanetetrol, 1-[5-[(2S,3R)-4-(benzoyloxy)-2,3-dihydroxybutyl]pyrazinyl]-, 4-benzoate, (1R,2S,3R)- (9CI) (CA INDEX NAME)

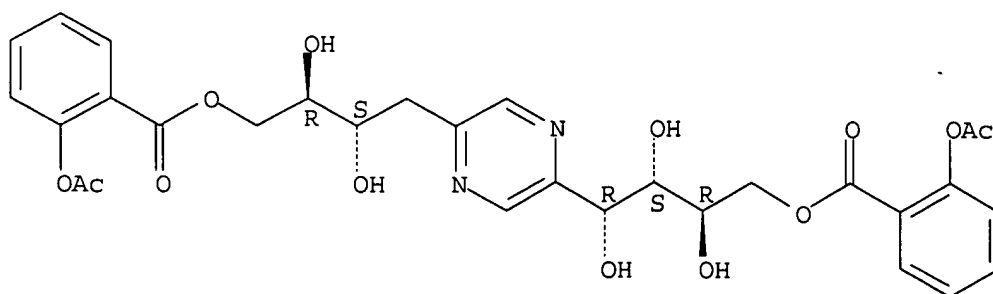
Absolute stereochemistry.



RN 220121-60-8 CAPLUS

CN Benzoic acid, 2-(acetyloxy)-, (2R,3S,4R)-4-[5-[(2S,3R)-4-[[2-(acetyloxy)benzoyl]oxy]-2,3-dihydroxybutyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

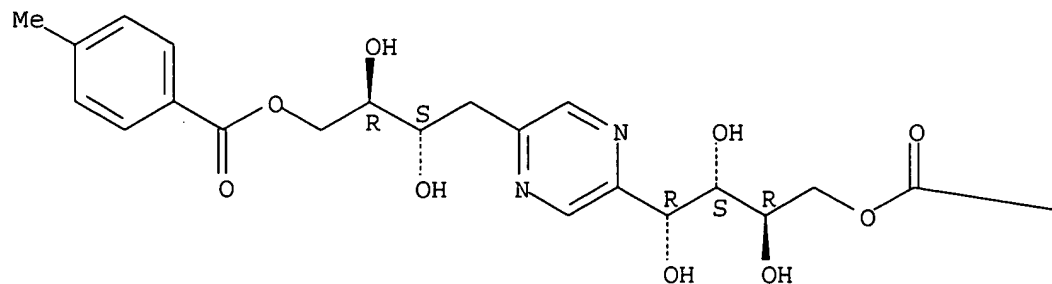


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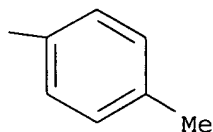
CN Benzoic acid, 4-methyl-, (2R,3S,4R)-4-[5-[(2S,3R)-2,3-dihydroxy-4-[(4-methylbenzoyl)oxy]butyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

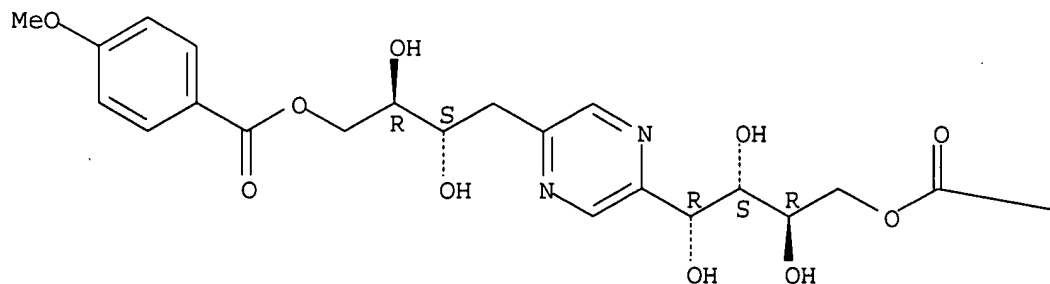


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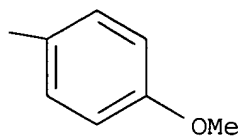
CN Benzoic acid, 4-methoxy-, (2R,3S,4R)-4-[5-[(2S,3R)-2,3-dihydroxy-4-[(4-methoxybenzoyl)oxy]butyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



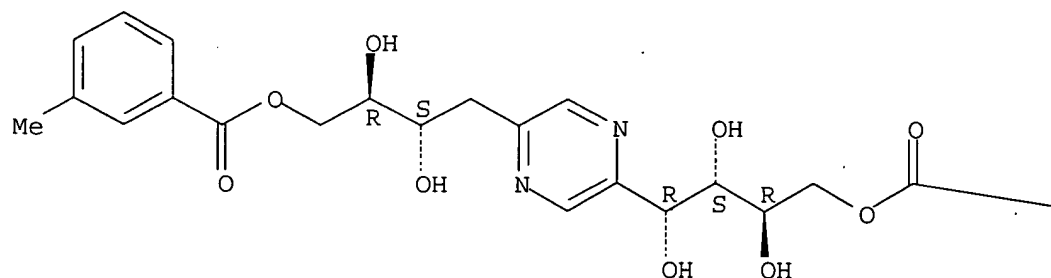
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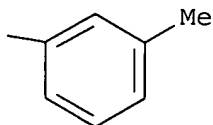
RN 220121-83-5 CAPLUS
 CN Benzoic acid, 3-methyl-, (2R,3S,4R)-4-[5-[(2S,3R)-2,3-dihydroxy-4-[(3-methylbenzoyl)oxy]butyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



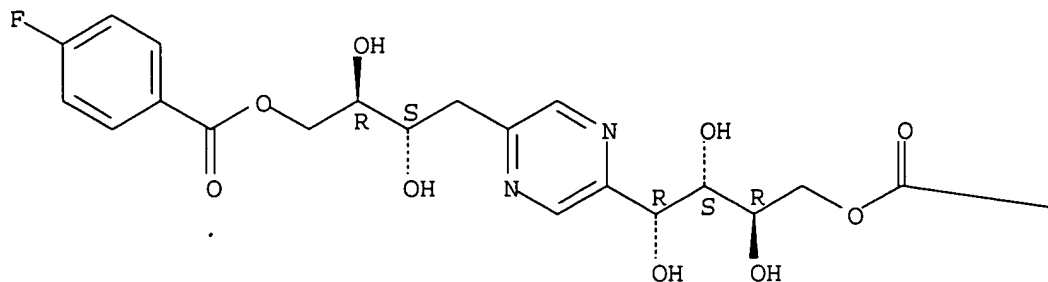
PAGE 1-B



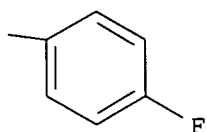
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 CN Benzoic acid, 4-fluoro-, (2R,3S,4R)-4-[5-[(2S,3R)-4-[(4-fluorobenzoyl)oxy]-2,3-dihydroxybutyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



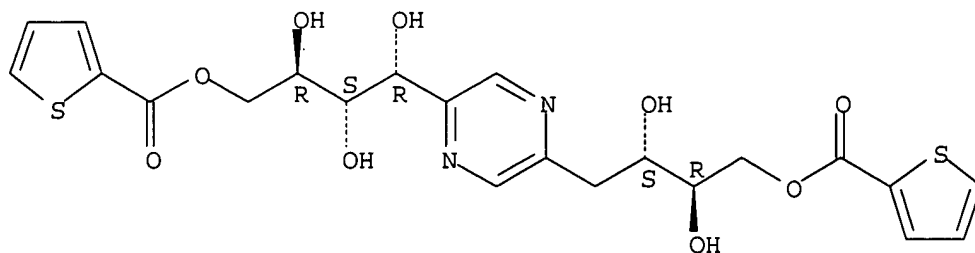
PAGE 1-B



RN 220121-85-7 CAPLUS

CN 2-Thiophenecarboxylic acid, (2R,3S,4R)-4-[5-[(2S,3R)-2,3-dihydroxy-4-[(2-thienylcarbonyl)oxy]butyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

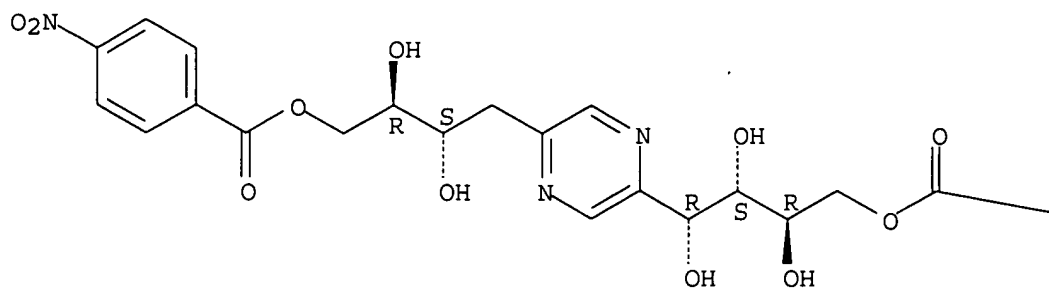


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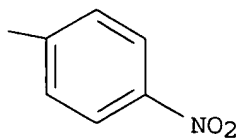
CN 1,2,3,4-Butanetetrol, 1-[5-[(2S,3R)-2,3-dihydroxy-4-[(4-nitrobenzoyl)oxy]butyl]pyrazinyl]-, 4-(4-nitrobenzoate), (1R,2S,3R)- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

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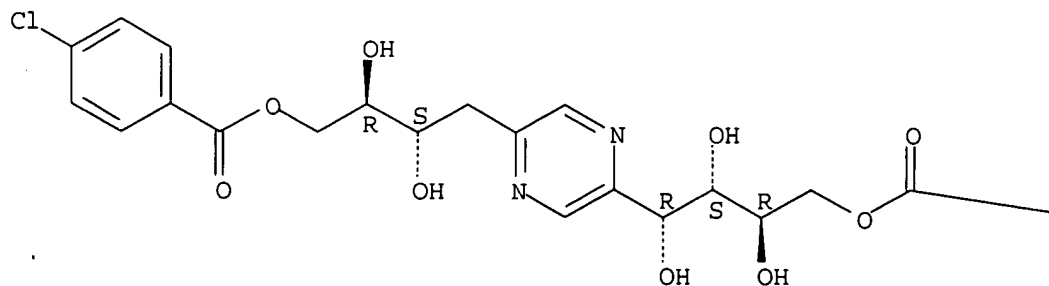


RN 220121-87-9 CAPLUS

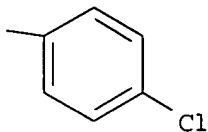
CN Benzoic acid, 4-chloro-, (2R,3S,4R)-4-[5-[(2S,3R)-4-[(4-chlorobenzoyl)oxy]-2,3-dihydroxybutyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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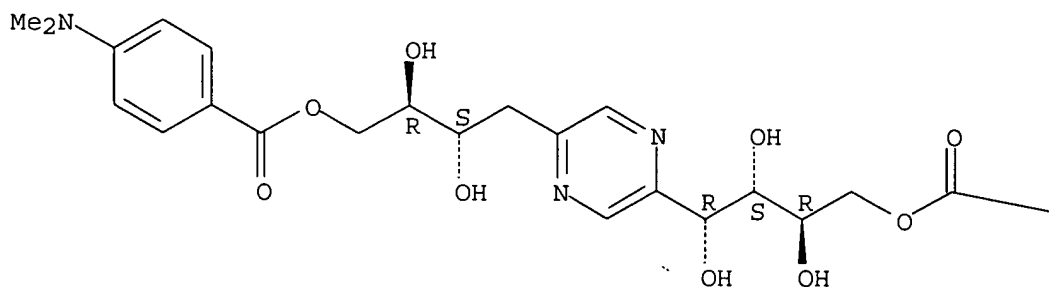


RN 220121-88-0 CAPLUS

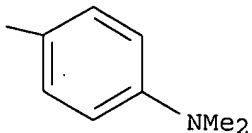
CN Benzoic acid, 4-(dimethylamino)-, (2R,3S,4R)-4-[5-[(2S,3R)-4-[[4-(dimethylamino)benzoyl]oxy]-2,3-dihydroxybutyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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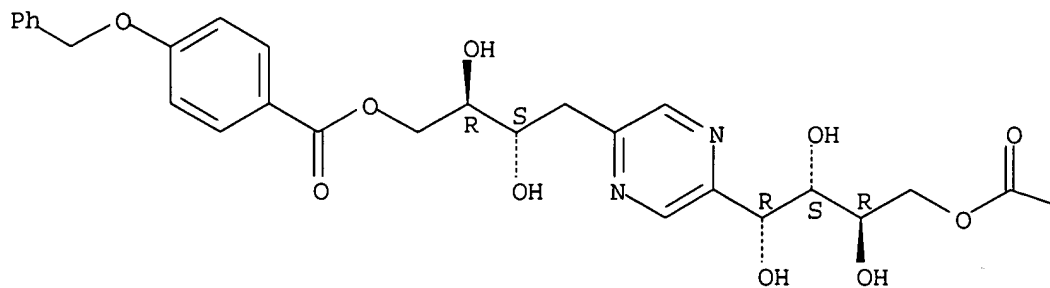


RN 220121-89-1 CAPLUS

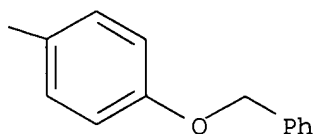
CN Benzoic acid, 4-(phenylmethoxy)-, (2R,3S,4R)-4-[5-[(2S,3R)-2,3-dihydroxy-4-[[4-(phenylmethoxy)benzoyl]oxy]butyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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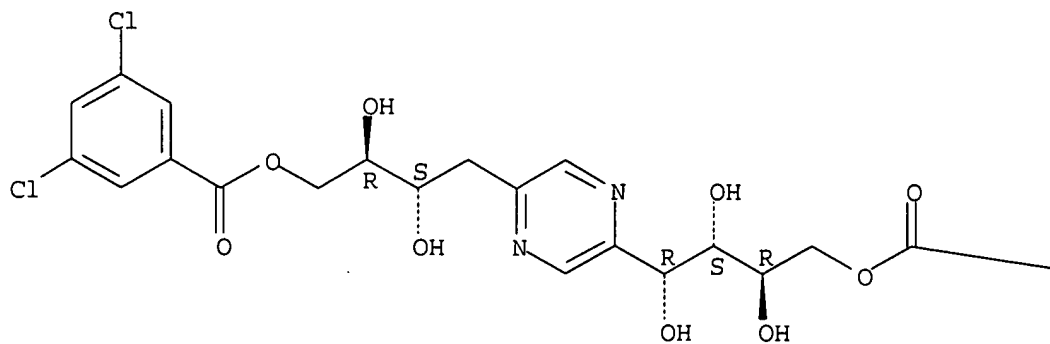


RN 220121-90-4 CAPLUS

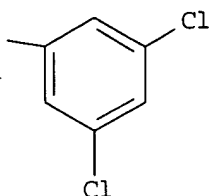
CN Benzoic acid, 3,5-dichloro-, (2R,3S,4R)-4-[5-[(2S,3R)-4-[(3,5-dichlorobenzoyl)oxy]-2,3-dihydroxybutyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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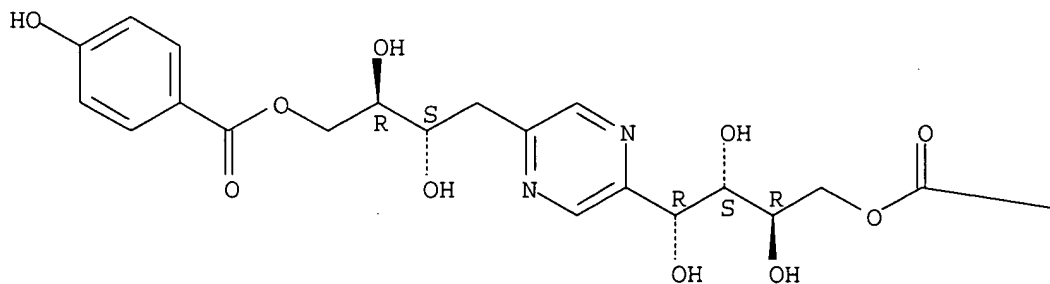
PAGE 1-B



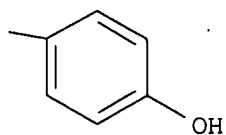
RN 220121-92-6 CAPLUS
 CN Benzoic acid, 4-hydroxy-, (2R,3S,4R)-4-[5-[(2S,3R)-2,3-dihydroxy-4-[(4-hydroxybenzoyl)oxy]butyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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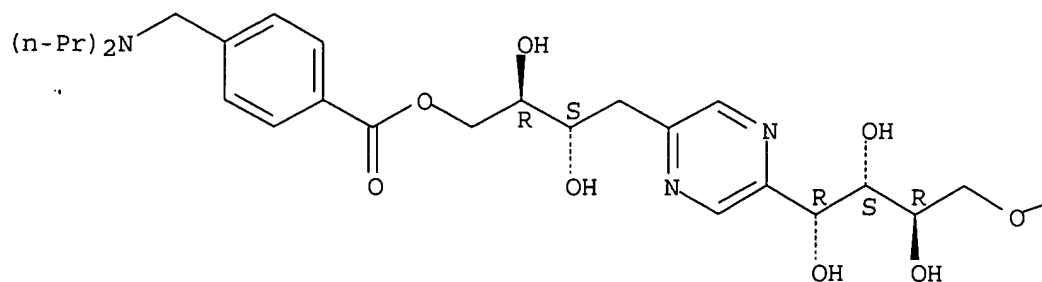
PAGE 1-B



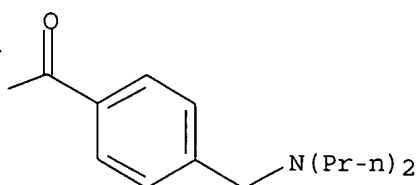
RN 220121-93-7 CAPLUS
 CN Benzoic acid, 4-[(dipropylamino)methyl]-, (2R,3S,4R)-4-[5-[(2S,3R)-4-[[4-[(dipropylamino)methyl]benzoyl]oxy]-2,3-dihydroxybutyl]pyrazinyl]-2,3,4-trihydroxybutyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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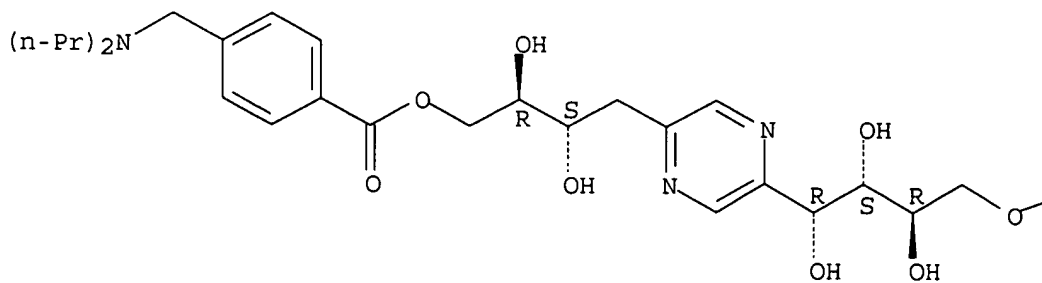


RN 220121-94-8 CAPLUS

CN Benzoic acid, 4-[(dipropylamino)methyl]-, (2R,3S,4R)-4-[5-[(2S,3R)-4-[[4-[(dipropylamino)methyl]benzoyl]oxy]-2,3-dihydroxybutyl]pyrazinyl]-2,3,4-trihydroxybutyl ester, trihydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



● 3 HCl

DE 10059418 A1 20020620 DE 2000-10059418 20001130
 AU 2002027931 A5 20020611 AU 2002-27931 20011117
 EE 200300183 A 20030616 EE 2003-183 20011117
 EP 1339675 A1 20030903 EP 2001-989479 20011117
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2003013719 A1 20030116 US 2001-995771 20011129
 US 6605625 B2 20030812
 NO 2003002438 A 20030709 NO 2003-2438 20030528
 PRAI DE 2000-10059418 20001130
 WO 2001-EP13294 20011117
 RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 133:164327 MARPAT
 TI Preparation of N-arylsulfonyl-O-[(tetrahydropyrimidinylcarbamoyl)propyl]ty
 rosine derivatives and analogs as vitronectin .alpha.v.beta.3 receptor
 inhibitors
 IN Peyman, Anuschirwan; Knolle, Jochen; Scheunemann, Karlheinz; Will, David
 William; Carniato, Denis; Gourvest, Jean-Francois; Gadek, Thomas R.;
 Bodary, Sarah Catherine
 PA Aventis Pharma Deutschland G.m.b.H., Germany; Genentech, Inc.
 SO Eur. Pat. Appl., 28 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1028114	A1	20000816	EP 1999-102916	19990213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 2000047564	A1	20000817	WO 2000-EP895	20000204
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EP 1155003	A1	20011121	EP 2000-905022	20000204
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JP 2002536438	T2	20021029	JP 2000-598485	20000204
US 6340679	B1	20020122	US 2000-502577	20000211
PRAI EP 1999-102916		19990213		
WO 2000-EP895		20000204		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 131:129989 MARPAT
 TI Preparation of thiazole compounds as pest control agents and fungicides
 IN Iihama, Teruyuki; Miyazawa, Masahiro; Miyahara, Osamu; Marumo, Shinji;

Sano, Shinsuke; Hamamura, Hiroshi; Yokota, Chinami; Kawaguchi, Masahiro;
 Takahashi, Hidemitsu; Takagi, Masae
 PA Nippon Soda Co., Ltd., Japan; et al..
 SO PCT Int. Appl., 60 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

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PI	WO 9940076	A1	19990812	WO 1999-JP473	19990204
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	JP 11286488	A2	19991019	JP 1998-371695	19981225
	AU 9922989	A1	19990823	AU 1999-22989	19990204
	JP 2000239264	A2	20000905	JP 1999-28489	19990205
PRAI	JP 1998-24853		19980205		
	JP 1998-371694		19981225		
	WO 1999-JP473		19990204		

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 130:139363 MARPAT
 TI Preparation of pyrazinedicarboxamides and analogs as hypoglycemics
 IN Bashiardes, Georges; Carry, Jean-Christophe; Evers, Michel; Filoche, Bruno; Mignani, Serge
 PA Rhone-Poulenc Rorer S.A., Fr.
 SO PCT Int. Appl., 100 pp.
 CODEN: PIXXD2

DT Patent
 LA French

FAN.CNT 1

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PI	WO 9903844	A1	19990128	WO 1998-FR1542	19980715
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	FR 2766187	A1	19990122	FR 1997-9058	19970717
	FR 2766187	B1	20000602		
	AU 9888102	A1	19990210	AU 1998-88102	19980715
	AU 747127	B2	20020509		
	EP 1001944	A1	20000524	EP 1998-939676	19980715
	EP 1001944	B1	20031001		
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI			
	JP 2001510188	T2	20010731	JP 2000-503069	19980715

NZ 501906	A	20020426	NZ 1998-501906	19980715
BR 9810880	A	20020521	BR 1998-10880	19980715
RU 2194703	C2	20021220	RU 2000-103449	19980715
ZA 9806337	A	19990127	ZA 1998-6337	19980716
NO 2000000198	A	20000114	NO 2000-198	20000114
US 6399613	B1	20020604	US 2000-483984	20000114
PRAI FR 1997-9058		19970717		
WO 1998-FR1542		19980715		

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
AN 128:188622 MARPAT
TI IL-8 receptor antagonists
IN Bryan, Deborah Lynn; Gleason, John Gerald; Widdowson, Katherine L.
PA Smithkline Beecham Corporation, USA; Bryan, Deborah Lynn; Gleason, John Gerald; Widdowson, Katherine L.
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9806398	A1	19980219	WO 1997-US14582	19970815
	W: JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 939634	A1	19990908	EP 1997-938426	19970815
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL				
	JP 2000516620	T2	20001212	JP 1998-510107	19970815
PRAI US 1996-23972P			19960815		
WO 1997-US14582			19970815		

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
AN 128:140727 MARPAT
TI Preparation of substituted piperazinyl-phenyl-oxazolidinone derivatives as antibacterial agents
IN Betts, Michael John; Darbyshire, Catherine Jane
PA Zeneca Ltd., UK; Betts, Michael John; Darbyshire, Catherine Jane
SO PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

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PI	WO 9801446	A1	19980115	WO 1997-GB1767	19970701
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AU 9733520 A1 19980202 AU 1997-33520 19970701
 EP 918769 A1 19990602 EP 1997-929403 19970701
 R: CH, DE, FR, GB, IT, LI
 JP 2000514083 T2 20001024 JP 1998-504900 19970701
 ZA 9705953 A 19980106 ZA 1997-5953 19970703
 PRAI GB 1996-14238 19960706
 WO 1997-GB1767 19970701

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 123:286063 MARPAT
 TI Preparation of vasoconstrictive dihydrobenzopyranpyrimidine derivatives
 IN Van Lommen, Guy Rosalia Eugene; Wigerinck, Piet Tom Bert Paul; De Bruyn,
 Marcel Frans Leopold; Verschueren, Wim Gaston; Schroyen, Marc Francis
 Josephine
 PA Janssen Pharmaceutica N.V., Belg.
 SO PCT Int. Appl., 50 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9505383	A1	19950223	WO 1994-EP2703	19940812
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, FI, GE, HU, JP, KE, KG, KP,				
KR, KZ, LK, LT, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SI,				
SK, TJ, TT, UA, US, UZ, VN				
RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC,				
NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2168021	AA	19950223	CA 1994-2168021	19940812
AU 9476131	A1	19950314	AU 1994-76131	19940812
AU 677428	B2	19970424		
BR 9407317	A	19960416	BR 1994-7317	19940812
EP 714396	A1	19960605	EP 1994-926191	19940812
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CN 1129451	A	19960821	CN 1994-193152	19940812
CN 1052006	B	20000503		
HU 74677	A2	19970128	HU 1996-373	19940812
JP 09501916	T2	19970225	JP 1994-506752	19940812
RU 2129556	C1	19990427	RU 1996-105980	19940812
CZ 287771	B6	20010117	CZ 1996-374	19940812
PL 181385	B1	20010731	PL 1994-313082	19940812
SK 282402	B6	20020107	SK 1996-195	19940812
IL 110687	A1	20010319	IL 1994-110687	19940817
ZA 9406269	A	19960219	ZA 1994-6269	19940818
ZA 9406270	A	19960219	ZA 1994-6270	19940818
US 5824682	A	19981020	US 1996-586760	19960130
FI 9600723	A	19960216	FI 1996-723	19960216
NO 9600649	A	19960219	NO 1996-649	19960219
US 6100268	A	20000808	US 1998-123893	19980728
PRAI EP 1993-202441		19930819		
EP 1993-202442		19930819		
EP 1993-202443		19930819		
EP 1993-202445		19930819		
WO 1994-EP2703		19940812		
US 1996-586760		19960130		

L6 ANSWER 10 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 117:79637 MARPAT
 TI Nonlinear optical material containing 1,3-diketone derivative
 IN Nakamura, Satoshi; Imahashi, Satoshi
 PA Toyobo Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04044016	A2	19920213	JP 1990-153108	19900612
PRAI	JP 1990-153108		19900612		

L6 ANSWER 11 OF 11 MARPAT COPYRIGHT 2003 ACS on STN
 AN 109:230806 MARPAT
 TI Preparation of 4-(heterocyclyl)chroman derivatives as cardiovascular agents
 IN Haeusler, Guenther; Gericke, Rolf; Wurziger, Hanns; Baumgarth, Manfred; Lues, Inge; De Peyer, Jacques; Bergmann, Rolf
 PA Merck Patent G.m.b.H., Fed. Rep. Ger.
 SO Ger. Offen., 13 pp.
 CODEN: GWXXBX

DT Patent
 LA German

FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3726261	A1	19880707	DE 1987-3726261	19870807
	EP 273262	A2	19880706	EP 1987-118275	19871210
	EP 273262	A3	19891206		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	AU 8782689	A1	19880623	AU 1987-82689	19871216
	AU 604809	B2	19910103		
	HU 48621	A2	19890628	HU 1987-5958	19871222
	HU 207728	B	19930528		
	JP 63170376	A2	19880714	JP 1987-324247	19871223
	JP 2523343	B2	19960807		
	ZA 8709671	A	19880831	ZA 1987-9671	19871223
	US 5387587	A	19950207	US 1991-766725	19910927
	US 6040308	A	20000321	US 1994-330957	19941028
	US 6153627	A	20001128	US 1995-467962	19950606
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	US 1987-137201		19871223		
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	DE 1988-3820506		19880616		
	DE 1988-3835011		19881014		
	US 1989-347710		19890505		
	US 1989-367281		19890615		
	US 1989-420978		19891013		
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	US 1991-657941		19910221		
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US 1991-766362 19910926
US 1991-766725 19910927
US 1994-330957 19941028

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ENTRY	SESSION
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FULL ESTIMATED COST

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FILE LAST UPDATED: 16 Nov 2003 (20031116/ED)

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L2 1 S L1
L3 31 S L1 SSS FULL

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S L1

FILE 'REGISTRY' ENTERED AT 07:39:52 ON 17 NOV 2003
L4 1 S L1

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L5 0 S L4

FILE 'MARPAT' ENTERED AT 07:40:51 ON 17 NOV 2003
L6 11 S L1

FILE 'CAPLUS' ENTERED AT 07:41:47 ON 17 NOV 2003

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Patel

<11/18/2003>

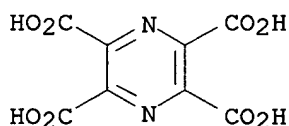
L7 49 L3

=> s 16

L8 11 L6

=> d 17 fbib hitstr abs total

L7 ANSWER 1 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:707987 CAPLUS
 TI An improved protocol for the ruthenium(pybox)-catalyzed asymmetric alkene epoxidation
 AU Tse, Man Kin; Bhor, Santosh; Klawonn, Markus; Dobler, Christian; Beller, Matthias
 CS Leibniz-Institut für Organische Katalyse an der Universität Rostock e.V. (IfOK), Rostock, D-18055, Germany
 SO Tetrahedron Letters (2003), 44(40), 7479-7483
 CODEN: TELEAY; ISSN: 0040-4039
 PB Elsevier Science B.V.
 DT Journal
 LA English
 IT INDEXING IN PROGRESS
 IT **43193-60-8**, Pyrazinetetracarboxylic acid
 RL: CAT (Catalyst use); USES (Uses)
 (prepn. of oxiranes via ruthenium(pybox)-catalyzed asym. alkene epoxidn.)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)

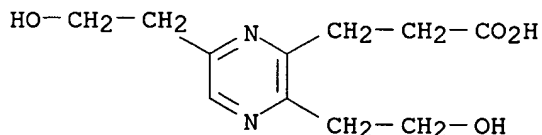


AB A considerable rate enhancement in the ruthenium-catalyzed asym. epoxidn. of olefins in the presence of $\text{PhI}(\text{OAc})_2$ is reported. By the addn. of H_2O , the rate of the reaction was increased by two orders of magnitude. Reactions of both aliph. and arom. olefins were realized for the first time and enantioselectivities up to 71% ee were obtained. In addn. an in situ generation of ruthenium pybox catalysts for faster screening of oxidn. catalysts was also developed. The [2,6-bis[(4S)-4,5-dihydro-4-(1-methylethyl)-2-oxazolyl-.kappa.N3]pyridine-.kappa.N][2,6-pyridinedicarboxylato(2-)-.kappa.N1,.kappa.O2,.kappa.O6]ruthenium-catalyzed epoxidn. of 1,1'-(1E)-1,2-ethenediylbis[benzene] with bis(acetato-.kappa.O)phenyliodine gave (2R,3R)-rel-2,3-diphenyloxirane (trans-isomer) with one of the enantiomers in 57% enantiomeric excess.
 RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:220809 CAPLUS
 DN 136:246468
 TI Process for clavulanic acid purification using molecular imprinted polymers
 IN Mosbach, Klaus; Te, Lei; Yu, Yihua

PA Smithkline Beecham P.L.C., UK
 SO PCT Int. Appl., 21 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002022846	A1	20020321	WO 2001-EP10742	20010917
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2001095569	A5	20020326	GB 2000-22841 A	20000918
				AU 2001-95569	20010917
				GB 2000-22841 A	20000918
				WO 2001-EP10742W	20010917
	EP 1319086	A1	20030618	EP 2001-976230	20010917
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
				GB 2000-22841 A	20000918
				WO 2001-EP10742W	20010917
IT	96681-85-5D , 3-[3,6-di(2-hydroxyethyl)pyrazin-2-yl]propanoic acid				
	RL: REM (Removal or disposal); PROC (Process)				
	(process for clavulanic acid purifn. using mol. imprinted polymers)				
RN	96681-85-5 CAPLUS				
CN	Pyrazinepropanoic acid, 3,6-bis(2-hydroxyethyl)- (9CI) (CA INDEX NAME)				



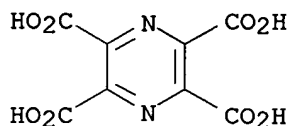
AB A novel process for the removal of impurities from clavulanic acid using a selective adsorption material, in particular a molecularly imprinted polymer. Novel selective adsorption materials suitable for the process, and a process for the prepn. of such selective adsorption materials, are also disclosed. Thus, a methacrylate/ethylene glycol dimethacrylate copolymer were prepd. contg. succinyl tyrosine and vinylbenzyltriethylammonium chloride. This mol. imprinted polymer was then employed to remove impurities from a clavulanic acid fermn. broth.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:749404 CAPLUS
 DN 136:61767

TI X-ray powder structure of a new two-dimensional nickel(II) coordination polymer with pyrazine-2,3,5,6-tetracarboxylic acid

AU Alfonso, Montserrat; Neels, Antonia; Stoeckli-Evans, Helen
 CS Institut de Chimie, Universite de Neuchatel, Neuchatel, CH-2000, Switz.
 SO Acta Crystallographica, Section C: Crystal Structure Communications
 (2001), C57(10), 1144-1146
 CODEN: ACSCEE; ISSN: 0108-2701
 PB Munksgaard International Publishers Ltd.
 DT Journal
 LA English
 IT **43193-60-8**, 2,3,5,6-Pyrazinetetracarboxylic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with nickel sulfate)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)

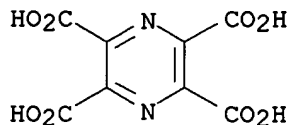


AB The new Ni(II) coordination polymer poly[*diaquanickel*(II)- μ -(pyrazine-2,3,5,6-tetracarboxylato)-tetraaquanickel(II)], $[[\{\text{Ni}(\text{C}_8\text{N}_2\text{O}_8)(\text{H}_2\text{O})_2\}\text{Ni}(\text{H}_2\text{O})_4]]_n$, was synthesized and characterized both spectroscopically and crystallog., by x-ray powder diffraction anal. Crystals are triclinic, space group *P*₁, with *a* 6.9892(3), *b* 7.169(4), *c* 8.2106(3) Å, α 85.922(3), β 84.242(4), γ 61.818(3)°. *Z* = 1, *dc* = 2.188; *R*_p = 0.065, *R*_w = 0.086, *R*_{exp} = 0.019. NiII ions are bridged by pyrazine-2,3,5,6-tetracarboxylic acid, coordinating in a bis-bidentate manner, so forming 1-dimensional polymeric chains. The chains are linked by a 2nd NiII ion, via an O atom of the coordinated carboxylate group, giving a two-dimensional layer-like polymer. The remaining coordination sites of the two independent octahedral NiII ions are occupied by H₂O mols. The layers are connected via H bonds involving all six coordinated H₂O mols.

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:39791 CAPLUS
 DN 134:280480
 TI Cooperative assistance in a very short O-H... hydrogen bond. Low-temperature x-ray crystal structures of 2,3,5,6-pyrazinetetracarboxylic and related acids
 AU Vishweshwar, Peddy; Nangia, Ashwini; Lynch, Vincent M.
 CS School of Chemistry, University of Hyderabad, Hyderabad, 500 046, India
 SO Chemical Communications (Cambridge) (2001), (2), 179-180
 CODEN: CHCOFS; ISSN: 1359-7345
 PB Royal Society of Chemistry
 DT Journal
 LA English
 IT **43193-60-8**, 2,3,5,6-Pyrazinetetracarboxylic acid
 RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
 (crystallog.; low-temp. x-ray crystal structures of

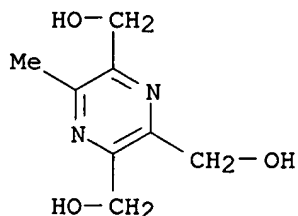
2,3,5,6-pyrazinetetracarboxylic and related acids and cooperative assistance in very short O-H.cntdot..cntdot..cntdot.O hydrogen bond)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB In contrast to the well documented role of charge- and resonance-assistance in very short H bonds, a very short O-Hacid.cntdot.Owater H bond [O.cntdot.O 2.4791(13) .ANG.] in the title acid is ascribed to the cumulative stabilization from .sigma.- and .pi.-bond cooperativity.

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1997:89553 CAPLUS
 DN 126:141592
 TI Studies on the metabolites of tetramethylpyrazine in human urine
 AU Ye, Yunpeng; Wang, Shizhen; Jiang, Ji
 CS Beijing Union Hosp., Beijing, 100730, Peop. Rep. China
 SO Zhongguo Yixue Kexueyuan Xuebao (1996), 18(4), 288-291
 CODEN: CIHPDR; ISSN: 1000-503X
 PB Zhongguo Yixue Kexueyuan
 DT Journal
 LA Chinese
 IT **186534-03-2**
 RL: ANT (Analyte); ANST (Analytical study)
 (detn. of tetramethylpyrazine in urine by gas chromatog. and mass spectroscopy)
 RN 186534-03-2 CAPLUS
 CN Pyrazinetrimethanol, 6-methyl- (9CI) (CA INDEX NAME)



AB The metabolites of tetramethylpyrazine (TMP) in human urine was studied by GC/MS after oral administration. Three metabolites were found in the water sol. acidic fraction of the urine and the main metabolite was identified to be 3,5,6-trimethylpyrazine carboxylic acid.

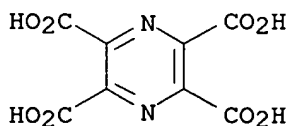
L7 ANSWER 6 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1996:509320 CAPLUS

DN 125:151127
 TI Crosslinked acidic polysaccharides and their uses
 IN Nguyen, Tuyen Thanh
 PA Hercules Inc., USA
 SO Eur. Pat. Appl., 14 pp.
 CODEN: EPXXDW

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 718312	A2	19960626	EP 1995-120277	19951221
	EP 718312	A3	19970115		
	R: AT, BE, CH, DE, DK, GB, IE, IT, LI, NL, PT, SE				
	US 5690961	A	19971125	US 1994-362689 A	19941222
	CA 2165890	AA	19960623	US 1994-362689	19941222
				CA 1995-2165890	19951221
				US 1994-362689 A	19941222
	AU 9540634	A1	19960627	AU 1995-40634	19951221
	AU 697534	B2	19981008		
				US 1994-362689 A	19941222
	BR 9505996	A	19971223	BR 1995-5996	19951221
				US 1994-362689 A	19941222
	CN 1131675	A	19960925	CN 1995-119494	19951222
				US 1994-362689 A	19941222
	JP 08253504	A2	19961001	JP 1995-334949	19951222
				US 1994-362689 A	19941222
IT	43193-60-8 , Pyrazine-2,3,5,6-tetracarboxylic acid				
	RL: CAT (Catalyst use); USES (Uses)				
	(polyanhydrides and polycarboxylic acids for crosslinking polysaccharides)				
RN	43193-60-8 CAPLUS				
CN	Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)				

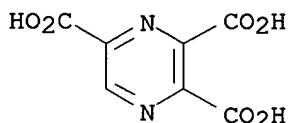


AB Acidic polysaccharides are crosslinked by reaction with di- or polyanhydrides. The use of anhydride-crosslinked hyaluronic acid as a treatment for arthritis, as a drug delivery vehicle, to reduce the incidence of post-operative adhesion formation, to promote the healing of chronic wounds and ulcers, as a component of cosmetic formulations are claimed.

L7 ANSWER 7 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:620122 CAPLUS
 DN 123:40723
 TI Preparation of pyrazinecarboxylic acid derivatives for skin-lightening cosmetics
 IN Ishikawa, Takaharu; Tsutsui, Koichi
 PA Sankodo Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07097310	A2	19950411	JP 1993-243193	19930929
	JP 3251107	B2	20020128		
				JP 1993-243193	19930929
OS	MARPAT 123:40723				
IT	23046-95-9P , 2,3,5-Pyrazinetricarboxylic acid				
	RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses) (skin-lightening cosmetics contg. pyrazinecarboxylic acid derivs.)				
RN	23046-95-9 CAPLUS				
CN	Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)				

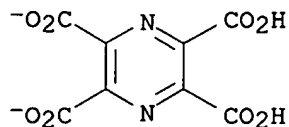


AB The title cosmetics contain pyrazine derivs. The pyrazine derivs. are stable in cosmetic formulation and generate no malodor. They significantly lightened the color of B-16 melanoma cells. Skin-lightening lotion, cream, and pack contg. these derivs. were prepd.

L7 ANSWER 8 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:472393 CAPLUS
 DN 121:72393
 TI Coordination polymers of Mn(II) with the ligand pyrazine-2,3,5,6-tetracarboxylic acid
 AU Marioni, Pierre-Alain; Marty, Werner; Stoeckli-Evans, Helen; Whitaker, Claire
 CS Institut de Chimie, Universite de Neuchatel, Avenue de Bellevaux 51, Neuchatel, CH-2000, Switz.
 SO Inorganica Chimica Acta (1994), 219(1-2), 161-8
 CODEN: ICHAA3; ISSN: 0020-1693
 DT Journal
 LA English
 IT **156367-78-1P**, Hexaaquamanganese(2+) pyrazine-2,3,5,6-tetracarboxylate(2-)
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. and crystal structure of)
 RN 156367-78-1 CAPLUS
 CN Manganese(2+), hexaaqua-, (OC-6-11)-, pyrazinetetracarboxylate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 156367-77-0
 CMF C8 H2 N2 O8

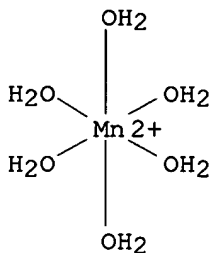


CM 2

CRN 15365-82-9

CMF H12 Mn O6

CCI CCS

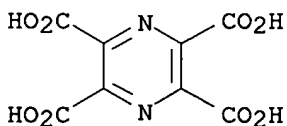
IT **43193-60-8**, Pyrazine-2,3,5,6-tetracarboxylic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with manganese and zinc salts alone and in presence of potassium ion)

RN 43193-60-8 CAPLUS

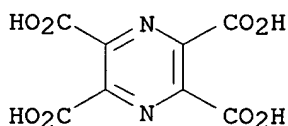
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB Two coordination polymers of Mn(II) with the ligand pyrazine-2,3,5,6-tetracarboxylic acid (H4pztc) were prepd. The reaction of MnSO4 with H4pztc (ratio 1:1) carried out at 50.degree. gave { [Mn(H2pztc)(H2O)2].cntdot.2H2O}.infin., a zigzag polymer structure with the ligand coordinated in a pseudo bis(tridentate) fashion (1) (crystal data: C8H10N2O12Mn, tetragonal, space group I41/a, a = b 13.934(1), c 13.578(1) .ANG., Z = 8, 1670 reflections with I>3.sigma.(I), R = 0.029). The reaction of an excess of MnSO4 with H4pztc (ratio 3:1) at room temp. gave [Mn(H2O)6][H2pztc] (2) (crystal data: C8H14N2O14Mn, monoclinic, space group A2/n, a 6.83(1), b 9.918(1), c 22.051(2) .ANG., .beta. 102.91(2).degree., Z = 4, 1547 reflections with I>3.sigma.(I), R = 0.026). The anion possesses a strong intramol. H bond and is found coordinated to the Mn atom in polymer 1. The reaction of MnSO4 with H4pztc (ratio 1:1) carried out at 50.degree. in the presence of the equimolar buffer AcOK/AcOH, gave {K2[Mn(pztc)(H2O)].cntdot.2.25H2O}.infin., a column type

polymer with the ligand coordinated in a mono(tridentate)-bis(monodentate) fashion (3) (crystal data: C₈H₇N₂O₁₁.25K₂Mn, monoclinic, space group I2/a, a 18.207(2), b 8.335(1), c 19.185(3) .ANG., .beta. 103.66(1).degree., Z = 8, 1539 reflections with I>2.sigma.(I), R = 0.041). The reaction of H₄pztc with ZnCl₂ (ratio 1:1) in the presence of the same equimolar buffer soln. give the isomorphous polymer Zn-3 (crystal data: C₈H₇N₂O₁₁.25K₂Zn, monoclinic, space group I2/a, a 18.194(1), b 8.264(1), c 18.924(1) .ANG., .beta. 103.92(1).degree., Z = 8, 2567 reflections with I>3.sigma.(I), R = 0.031).

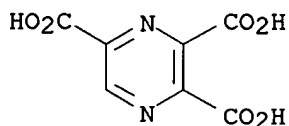
L7 ANSWER 9 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1993:685043 CAPLUS
 DN 119:285043
 TI Coordination polymers of copper(II) with the ligand pyrazine-2,3,5,6-tetracarboxylic acid
 AU Graf, Marion; Stoeckli-Evans, Helen; Whitaker, Claire; Marioni, Pierre Alain; Marty, Werner
 CS Inst. Chim., Univ. Neuchatel, Neuchatel, CH-2000, Switz.
 SO Chimia (1993), 47(6), 202-5
 CODEN: CHIMAD; ISSN: 0009-4293
 DT Journal
 LA English
 IT **43193-60-8**, Pyrazine-2,3,5,6-tetracarboxylic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with cupric chloride in cesium or magnesium acetate buffers with acetic acid)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB The ligand pyrazine-2,3,5,6-tetracarboxylic acid in the presence of CuCl₂ and the buffers AcOX/AcOH, X = K⁺, Rb⁺, Cs⁺ and (AcO)₂Mg/AcOH, forms 2 quite different types of coordination polymers. With the monovalent K⁺, Rb⁺, or Cs⁺ buffer an almost right-angled dimeric unit is formed which polymerizes to form a zig-zag polymer {Cs₄[Cu₂(pztc)₂(H₂O)₂].9H₂O}.infin. (1). This dimerizes about a center of symmetry to form a 2-dimensional polymer sheet. With the divalent Mg²⁺ buffer a mononuclear unit polymerizes to form a quasi-linear polymer {Mg(H₂O)₆[Cu(pztc)(H₂O)₂].2H₂O}.infin. (2). The x-ray crystal structures of 1 and 2 indicate that the Cu-atom exists in 2 quite different coordination environments (NO₃ square pyramidal for 1 and N₂O₂, square planar for 2) and that the Cu-N(pyrazine) bond distances are much longer than normal.

L7 ANSWER 10 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1992:93836 CAPLUS
 DN 116:93836
 TI Electrochemical behavior of 2,3,5-pyrazinetricarboxylic acid at DME
 AU Rao, P. Prabhakara; Swamy, P. Yadagiri; Veerabhadram, G.; Sastry, K. S.
 CS Coll. Sci., Osmania Univ., Hyderabad, 500 007, India
 SO Bulletin of Electrochemistry (1991), 7(7), 329-30

CODEN: BUELE6; ISSN: 0256-1654
 DT Journal
 LA English
 IT **23046-95-9**, Pyrazinetricarboxylic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (redn. of, polarog., in various pH buffered solns.)
 RN 23046-95-9 CAPLUS
 CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



AB The polarog. behavior of 2,3,5-pyrazinetricarboxylic acid was studied in buffer solns. of various pH values. The polarog. wave is irreversible and diffusion controlled. The limiting current is found to decrease whereas the half-wave potential is shifted to more neg. values with the increase in the pH of the buffer soln. The kinetic parameters have been deduced using Meites-Israel method and a probable mechanism consistent with the obsd. results is discussed.

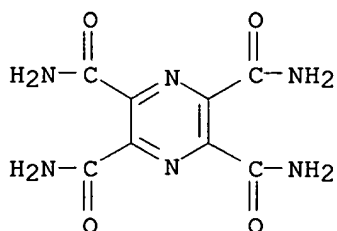
L7 ANSWER 11 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1991:101739 CAPLUS
 DN 114:101739
 TI Preparation of heterocyclic medical chelating agents and chelates
 IN Almen, Torsten; Berg, Arne; Dugstad, Harald; Klaveness, Jo; Krautwurst, Klaus Dieter; Rongved, Pal
 PA Cockbain, Julian Roderick Michaelson, UK; Nycomed A/S
 SO PCT Int. Appl., 53 pp.
 CODEN: PIXXD2

DT Patent
 LA English

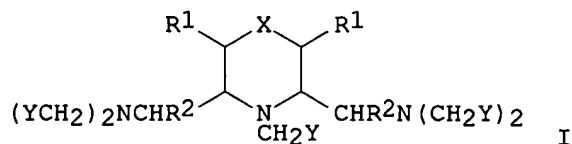
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9008138	A1	19900726	WO 1990-EP79	19900115
	W: AU, CA, FI, GB, JP, NO, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
	CA 2045539	AA	19900714	CA 1990-2045539	19900115
	AU 9049573	A1	19900813	AU 1990-49573	19900115
	AU 646795	B2	19940310		
				GB 1989-719	19890113
				WO 1990-EP79	19900115
	EP 452392	A1	19911023	EP 1990-901813	19900115
	EP 452392	B1	19950412		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
				GB 1989-719	19890113
				WO 1990-EP79	19900115
	JP 04502619	T2	19920514	JP 1990-502171	19900115
	JP 2953670	B2	19990927		
				GB 1989-719	19890113

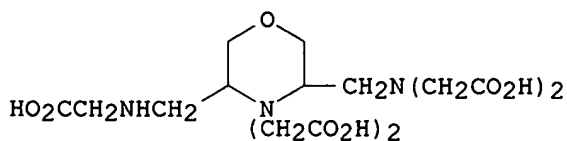
AT 121079	E	19950415	WO 1990-EP79	19900115
ES 2071089	T3	19950616	AT 1990-901813	19900115
NO 9102749	A	19910712	GB 1989-719	19890113
NO 177783	B	19950814	ES 1990-901813	19900115
NO 177783	C	19951122	GB 1989-719	19890113
			NO 1991-2749	19910712
FI 96416	B	19960315	GB 1989-719	19890113
FI 96416	C	19960625	WO 1990-EP79	19900115
			FI 1991-3388	19910712
US 5348954	A	19940920	GB 1989-719	19890113
			WO 1990-EP79	19900115
US 5439668	A	19950808	US 1991-690975	19910724
			GB 1989-719	19890113
			WO 1990-EP79	19900115
			US 1994-235882	19940502
			GB 1989-719	19890113
			US 1991-690975	19910724
OS	MARPAT 114:101739			
IT	22051-80-5, Pyrazinetetracarboxamide			
	RL: RCT (Reactant); RACT (Reactant or reagent)			
	(reaction of, in prepn. of medical chelating agent)			
RN	22051-80-5 CAPLUS			
CN	Pyrazinetetracarboxamide (9CI) (CA INDEX NAME)			



GI



I

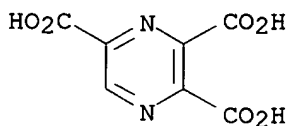


II

AB Title compds. I [X = bond, O, S, R1HC, R3N, R1, R2 = H, (substituted) alkyl, alkoxyalkyl; R3 = H, mono-, polyhydroxylated alkyl, etc.; Y =

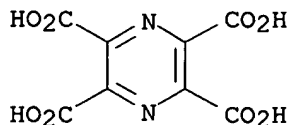
hydroxycarbamoyl, CO₂; Z = (substituted) morpholino, etc.] useful as diagnostic, therapeutic, detoxification, imaging, or radiotherapy agents (no data), are prepd. Thus, title compd: II, prepd. starting from 3-carboxamido-5-cyano-4-benzylmorpholine via 3,5-bis(aminomethyl)morpholine, was reacted with Gd₂O₃ in the presence of NaOH to give the 2Na salt of the Gd(III) chelate of II. Pharmaceutical formulations contg. I salts and chelates are given.

L7 ANSWER 12 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1990:505266 CAPLUS
DN 113:105266
TI Comparison of the kinetics of anodization of zirconium in pyrazinecarboxylic acids
AU Rao, M. Bhaskara; Sastry, K. S.
CS Dep. Chem., Osmania Univ., Hyderabad, 500 007, India
SO Transactions of the SAEST (1990), 25(1-2), 33-5
CODEN: TSETA6; ISSN: 0036-0678
DT Journal
LA English
IT **23046-95-9**, 2,3,5-Pyrazinetricarboxylic acid
RL: PRP (Properties)
(zirconium anodization in soln. contg.)
RN 23046-95-9 CAPLUS
CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



AB The kinetics of anodization of Zr in 0.01M 2-pyrazine monocarboxylic acid, 2,3-pyrazine dicarboxylic acid and 2,3,5-pyrazine tricarboxylic acids were studied at a const. c.d. of 4mA/cm² and at room temp. The formation rate and the current efficiency are found to decrease while the differential field is found to increase with the increase in no. of carboxylic acid groups. Thickness ests. were made from the capacitance data.

L7 ANSWER 13 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1990:139262 CAPLUS
DN 112:139262
TI Titanocene and zirconocene complexes with pyrazinetetracarboxylate ligands
AU Guethner, Thomas; Thewalt, Ulf
CS Sekt. Roentgen- Elektronenbeugung, Univ. Ulm, Ulm, D-7900, Fed. Rep. Ger.
SO Journal of Organometallic Chemistry (1989), 371(1), 43-56
CODEN: JORCAI; ISSN: 0022-328X
DT Journal
LA German
OS CASREACT 112:139262
IT **125750-33-6**, Tetrasodium pyrazinetetracarboxylate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions of, with titanocene and zirconocenedichlorides)
RN 125750-33-6 CAPLUS
CN Pyrazinetetracarboxylic acid, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

AB The reaction of titanocene dichloride with tetrasodium pyrazinetetracarboxylate in the two-phase system of water/CHCl₃ gives the tetranuclear complex [Cp₂Ti(C₈N₂O₈)TiCp₂]₂ (I) which can be isolated as the hydrate [Cp₂Ti(C₈N₂O₈)TiCp₂].cndot.12H₂O or the cryst. solvate [Cp₂Ti(C₈N₂O₈)TiCp₂]₂.cndot.2H₂O.cndot.2CHCl₃.cndot.3CH₃NO₂ from an appropriate mixt. of solvents. Two of the titanium atoms in I are pentacoordinate (Cp₂TiO₂N arrangement) and the other two are tetracoordinate (Cp₂TiO₂ arrangement). The pyrazinetetracarboxylate(4-) anions act as (3 + 1 + 1)-denate ligands. The heterometallic complex [Cp₂Ti(C₈N₂O₈)ZrCp₂]₂ (II) which crystallizes as the solvate [Cp₂Ti(C₈N₂O₈)ZrCp₂]₂.cndot.CH₃NO₂.cndot.6CHCl₃ is isostructural with I. The reaction of equimolar amts. of Cp₂TiCl₂ and Cp₂ZrCl₂ with tetrasodium pyrazinetetracarboxylate gives II. The Zr atoms in II occupy the pentacoordinate positions whereas the Ti atoms occupy the tetracoordinate positions. I reacts with aq. hydrochloric acid to give the pentacoordinate mononuclear complex Cp₂Ti(C₈H₂N₂O₈) (III) which crystallizes as the solvate Cp₂Ti(C₈H₂N₂O₈).cndot.2H₂O.cndot.CH₃NO₂. The crystal structures of I, II, III have been detd. by x-ray diffraction.

L7 ANSWER 14 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:139054 CAPLUS

DN 112:139054

TI Preparation of heterocyclic tetracarboxylic acids as materials for dyes, drugs, agrochemicals, and polymers

IN Horiuchi, Kenichiro; Matsumoto, Mansuke

PA Yamamoto Kasei K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01246261	A2	19891002	JP 1988-72874	19880325
	JP 2516396	B2	19960724		
				JP 1988-72874	19880325

OS MARPAT 112:139054

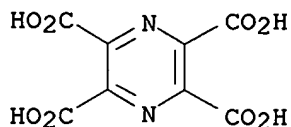
IT **43193-60-8P**, Pyrazinetetracarboxylic acid

RL: SPN (Synthetic preparation); PREP (Preparation)

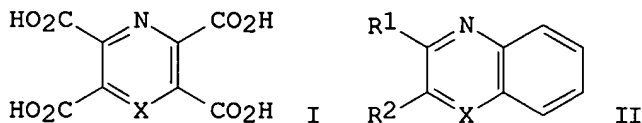
(prepn. of, as material for dyes, drugs, agrochems., and polymers)

RN 43193-60-8 CAPLUS

CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



GI



AB The title compds. I (X = CH, N) are prepd. by oxidn. of quinolines or quinoxalines II (R1, R2 = alkyl; R1 and R2 may be bonded to form cycloalkene or benzene ring; R1, R2 and benzene ring may have nonreactive substituents) in presence of RuO4 under basic conditions. Thus, a soln. of phenazine in CCl4 was stirred with aq. NaOH, RuCl3, and NaOCl at 30-35.degree. for 48 h to give 33.9% I.2H2O (X = N).

L7 ANSWER 15 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1987:138831 CAPLUS

DN 106:138831

TI Pyridine-acetic anhydride initiated polymerization of some heterocyclic acids

AU Wiley, Richard H.

CS Palo Alto, CA, 94306, USA

SO Journal of Polymer Science, Part A: Polymer Chemistry (1987), 25(2), 735-7

CODEN: JPACEC; ISSN: 0887-624X

DT Journal

LA English

IT **107502-10-3P 107502-13-6P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of)

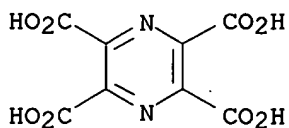
RN 107502-10-3 CAPLUS

CN Pyrazinetetracarboxylic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 43193-60-8

CMF C8 H4 N2 O8



RN 107502-13-6 CAPLUS

CN Pyrazinetetracarboxylic acid, homopolymer (9CI) (CA INDEX NAME)

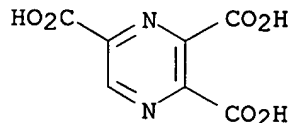
Patel

<11/18/2003>

CM 1

CRN 23046-95-9

CMF C7 H4 N2 O6



AB Polymn. of quinolinic, pyrimidine-4,5-dicarboxylic, and pyrazine-2,3-di-, tri-, and tetracarboxylic acids in the presence of pyridine [110-86-1] and Ac2O [108-24-7] at 135.degree. yielded poly(azino- or diazinocyclopent-4-ene-1-one-2,3-diylidenes) and their polymeric semidione and dienol forms. The products were black, insol. powders and were inhibitors for vinyl polymn.

L7 ANSWER 16 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1986:570812 CAPLUS

DN 105:170812

TI Identification of novel non-volatile pyrazines in commercial caramel colors

AU Tsuchida, Hironobu; Morinaka, Keizo; Fujii, Satoshi; Komoto, Masahiko; Mizuno, Susumu

CS Dep. Agric. Chem., Univ. Kobe, Kobe, 657, Japan

SO Developments in Food Science (1986), 13(Amino-Carbonyl React. Food Biol. Syst.), 85-94

CODEN: DFSCDX; ISSN: 0167-4501

DT Journal

LA English

IT 104670-20-4 104670-21-5 104670-31-7

104670-34-0 104670-37-3 104670-38-4

104696-24-4

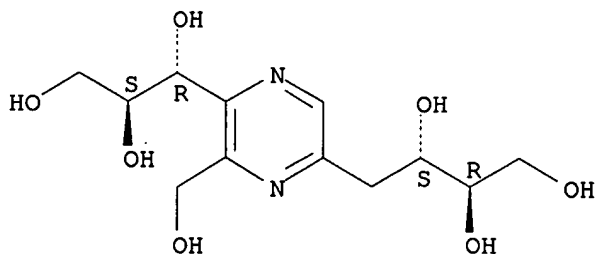
RL: BIOL (Biological study)

(of ammonia caramel color)

RN 104670-20-4 CAPLUS

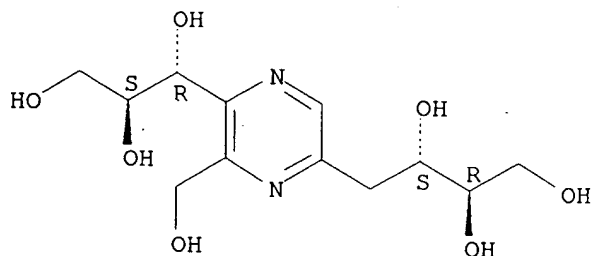
CN 1,2,3-Butanetriol, 4-[6-(hydroxymethyl)-5-(1,2,3-trihydroxypropyl)pyrazinyl]-, [2R-[2R*,3S*(1R*,2S*)]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L7 ANSWER 16 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1986:570812 CAPLUS
 DN 105:170812
 TI Identification of novel non-volatile pyrazines in commercial caramel colors
 AU Tsuchida, Hironobu; Morinaka, Keizo; Fujii, Satoshi; Komoto, Masahiko; Mizuno, Susumu
 CS Dep. Agric. Chem., Univ. Kobe, Kobe, 657, Japan
 SO Developments in Food Science (1986), 13(Amino-Carbonyl React. Food Biol. Syst.), 85-94
 CODEN: DFSCDX; ISSN: 0167-4501
 DT Journal
 LA English
 IT 104670-20-4 104670-21-5 104670-31-7
 104670-34-0 104670-37-3 104670-38-4
 104696-24-4
 RL: BIOL (Biological study)
 (of ammonia caramel color)
 RN 104670-20-4 CAPLUS
 CN 1,2,3-Butanetriol, 4-[6-(hydroxymethyl)-5-(1,2,3-trihydroxypropyl)pyrazinyl]-, [2R-[2R*,3S*(1R*,2S*)]]- (9CI) (CA INDEX NAME)

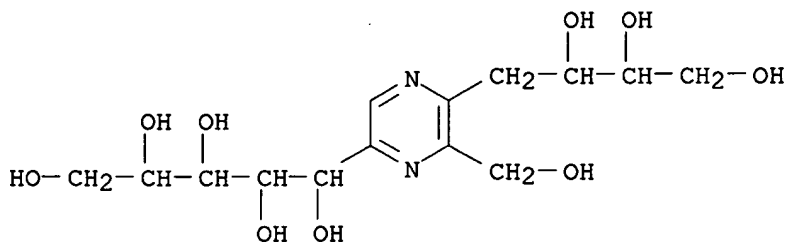
Absolute stereochemistry.



Patel

<11/18/2003>

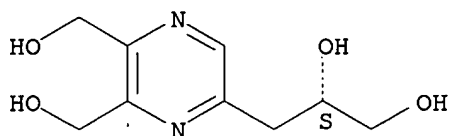
RN 104670-21-5 CAPLUS

CN Pentitol, 1-C-[6-(hydroxymethyl)-5-(2,3,4-trihydroxybutyl)pyrazinyl]-
(9CI) (CA INDEX NAME)

RN 104670-31-7 CAPLUS

CN 2,3-Pyrazinedimethanol, 5-(2,3-dihydroxypropyl)-, (S)- (9CI) (CA INDEX NAME)

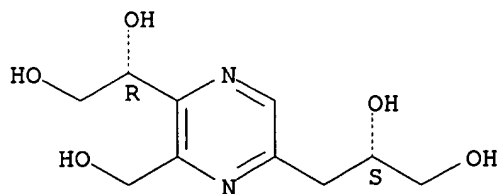
Absolute stereochemistry.



RN 104670-34-0 CAPLUS

CN 2,3-Pyrazinedimethanol, 5-(2,3-dihydroxypropyl)-.alpha.2-(hydroxymethyl)-,
[R-(R*,S*)]- (9CI) (CA INDEX NAME)

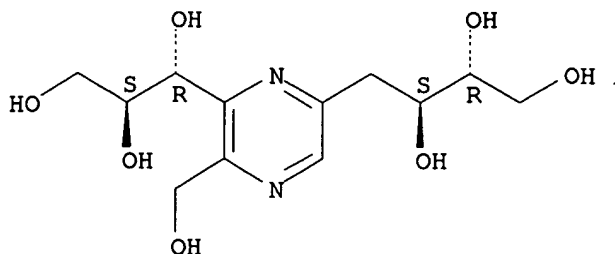
Absolute stereochemistry.



RN 104670-37-3 CAPLUS

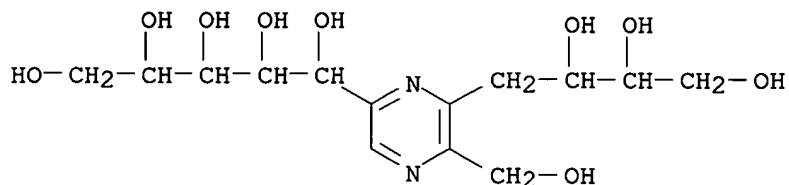
CN 1,2,3-Butanetriol, 4-[5-(hydroxymethyl)-6-(1,2,3-trihydroxypropyl)pyrazinyl]-, [1R-[1R*(2R*,3S*),2S*]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 104670-38-4 CAPLUS

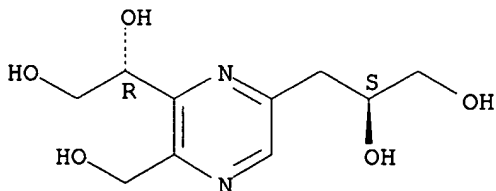
CN Pentitol, 1-C-[5-(hydroxymethyl)-6-(2,3,4-trihydroxybutyl)pyrazinyl]-(9CI) (CA INDEX NAME)



RN 104696-24-4 CAPLUS

CN 2,3-Pyrazinedimethanol, 5-(2,3-dihydroxypropyl)-.alpha.3-(hydroxymethyl)-, [R-(R*,S*)]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



AB Gas chromatog.-mass-spectrometric analyses of trimethylsilyl derivs. of the nonvolatile pyrazine fraction obtained by an ion exchange method demonstrated the presence of 25 polyhydroxyalkylpyrazines in an ammonia caramel color and of 17 polyhydroxyalkylpyrazines in a sulfite-ammonia caramel color. Three novel nonvolatile pyrazines of the latter were isolated by preparative ion exchange- and paper chromatog., and identified as 2-tetrahydroxybutyl-6-(3',4'-dihydroxy-1'-butenyl)pyrazine [104670-24-8], 2-(2',3'-dihydroxytetrahydrofuran-5-yl)-6-(2'',3'',4''-trihydroxybutyl)pyrazine [104670-25-9] and 2-tetrahydroxybutyl-6-(2',3'-dihydroxytetrahydrofuran-5-yl)pyrazine [104696-21-1]. A possible formation pathway of the novel pyrazines was proposed.

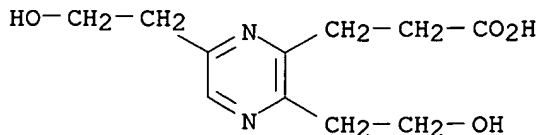
L7 ANSWER 17 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:225908 CAPLUS

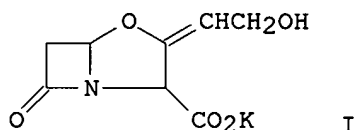
DN 102:225908

TI Degradation of clavulanic acid in aqueous alkaline solution: isolation and structural investigation of degradation products

AU Haginaka, Jun; Yasuda, Hiroyuki; Uno, Toyozo; Nakagawa, Terumichi
 CS Fac. Pharm. Sci., Mukogawa Women's Univ., Nishinomiya, 663, Japan
 SO Chemical & Pharmaceutical Bulletin (1985), 33(1), 218-24
 CODEN: CPBTAL; ISSN: 0009-2363
 DT Journal
 LA English
 IT **96681-85-5**
 RL: BIOL (Biological study)
 (clavulanic acid degrdn. product, in aq. alk. soln.)
 RN 96681-85-5 CAPLUS
 CN Pyrazinepropanoic acid, 3,6-bis(2-hydroxyethyl)- (9CI) (CA INDEX NAME)



GI



AB K clavulanate (I) [61177-45-5] was degraded in 0.1M Na2HPO4 soln. at various temps. Four degrdn. products were isolated and their structures were elucidated as 2,5-bis(2-hydroxyethyl)pyrazine [4744-51-8], 3-methyl-2,5-bis(2-hydroxyethyl)pyrazine (II) [96681-84-4], 3-(2-carboxyethyl)-2,5-bis(2-hydroxyethyl)pyrazine (III) [**96681-85-5**], and 3-ethyl-2,5-bis(2-hydroxyethyl)pyrazine [86917-74-0] by mass spectroscopy and NMR spectroscopy. HPLC anal. of the reaction soln. indicated that the reaction at 60.degree. yielded all 4 pyrazine derivs., whereas II was not formed at 35.degree. and III was not formed at 100.degree.. A reaction mechanism was proposed which involves 4-amino-3-oxobutanol as a key intermediate.

L7 ANSWER 18 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1982:217876 CAPLUS
 DN 96:217876
 TI Di-n-alkyl dicarboxypyrazinedicarboxylates and ferrous complexes
 IN Wiley, Richard H.
 PA USA
 SO U.S., 3 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4311843	A	19820119	US 1981-236154	19810220

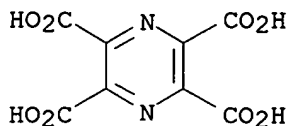
US 1981-236154 19810220

IT 43193-60-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydration of)

RN 43193-60-8 CAPLUS

CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB The title compds. were obtained as a mixt. of 2,5- and 2,6-diester by esterifying pyrazinetetracarboxylic anhydride (I). The products have surfactant, liq. crystal, and chelating properties. The Fe chelates have indicator properties. Pyrazinetetracarboxylic acid was treated with Ac2O to give I which was esterified with decanol in the presence of Ac2O to give didecyl dicarboxypyrazinedicarboxylate. The diester formed a deep blue-purple Fe(II) chelate.

L7 ANSWER 19 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1981:443167 CAPLUS

DN 95:43167

TI Monoesters of pyrazinetetracarboxylic acid

IN Wiley, Richard H.

PA USA

SO U.S., 2 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

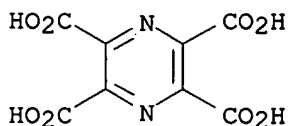
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4252949	A	19810224	US 1979-71695	19790831
				US 1979-71695	19790831

IT 43193-60-8

RL: PROC (Process)
(conversion of, to monoesters)

RN 43193-60-8 CAPLUS

CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)

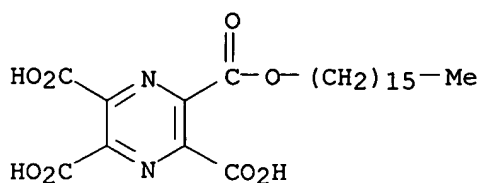


IT 78162-01-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and use of, as sequestering agent)

RN 78162-01-3 CAPLUS

CN Pyrazinetetracarboxylic acid, monohexadecyl ester (9CI) (CA INDEX NAME)



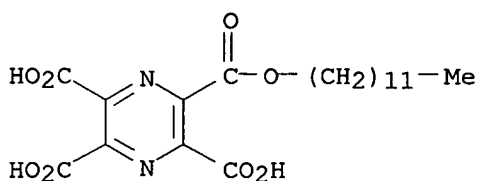
IT 78161-99-6P 78162-00-2DP, copper chelate

78162-00-2P 78162-02-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

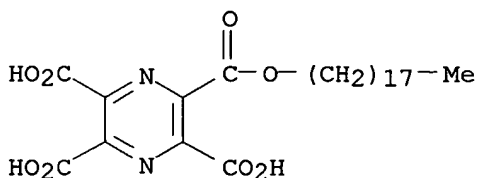
RN 78161-99-6 CAPLUS

CN Pyrazinetetracarboxylic acid, monododecyl ester (9CI) (CA INDEX NAME)



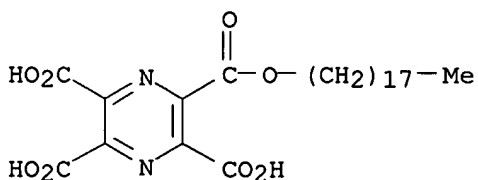
RN 78162-00-2 CAPLUS

CN Pyrazinetetracarboxylic acid, mono-octadecyl ester (9CI) (CA INDEX NAME)



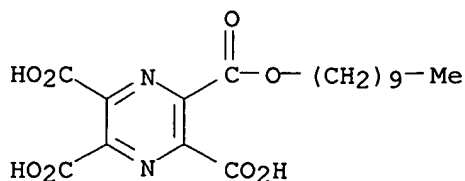
RN 78162-00-2 CAPLUS

CN Pyrazinetetracarboxylic acid, mono-octadecyl ester (9CI) (CA INDEX NAME)



RN 78162-02-4 CAPLUS

CN Pyrazinetetracarboxylic acid, mono-decyl ester (9CI) (CA INDEX NAME)



AB Title esters were prepd. from pyrazinetetracarboxylic acid (I) and they are useful as sequestrants in extractive metallurgy. A mixt. of I and 1-dodecanol was refluxed under N to give monoester.

L7 ANSWER 20 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1980:124595 CAPLUS

DN 92:124595

TI The biosynthesis of phenazines: incorporation of [14C]shikimic acid

AU Herbert, Richard B.; Holliman, Frederick G.; Ibberson, P. Nicholas; Sheridan, John B.

CS Dep. Org. Chem., Univ. Leeds, Leeds, LS2 9JT, UK

SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1979), (10), 2411-15

CODEN: JCPRB4; ISSN: 0300-922X

DT Journal

LA English

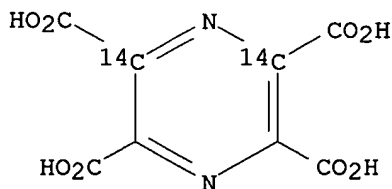
IT **73030-68-9P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

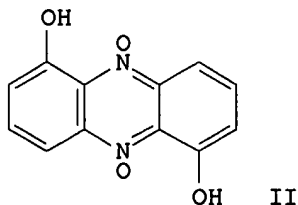
(prepn and decarboxylation of, label scrambling in)

RN 73030-68-9 CAPLUS

CN Pyrazine-2,6-14C2-tetracarboxylic acid (9CI) (CA INDEX NAME)



GI



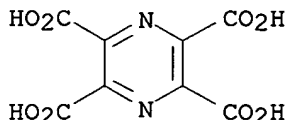
AB Specific and self-consistent incorporations of shikimic-1-14C, -6-14C, and -1,6,7-14C3 acid (I) into iodinin (II) in *Brevibacterium iodinum* closely defined the orientation of the precursor mol. in the phenazine metabolite.

Patel

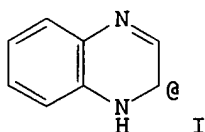
<11/18/2003>

Triply labeled I gave phenazine-1-carboxylic acid with 1/5 of its activity in the CO₂H group, which requires the involvement of 2 precursor mols. in the biosynthesis or incorporation via a sym. intermediate derived from only 1 precursor mol. Decarboxylation of pyrazinetetracarboxylic acid-ring-14C was examd. under various conditions; with Cu chromite, but not Cu-bipyridyl-quinoline, radioactivity (.1toeq.12%) appeared in the liberated CO₂.

L7 ANSWER 21 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1979:186053 CAPLUS
 DN 90:186053
 TI Electron transfer. 42. Quinoxaliniun radicals
 AU Chang, C. R.; Paton, S. J.; Gelerinter, E.; Gould, E. S.
 CS Dep. Chem., Kent State Univ., Kent, OH, USA
 SO Inorganic Chemistry (1979), 18(5), 1294-7
 CODEN: INOCAJ; ISSN: 0020-1669
 DT Journal
 LA English
 IT **43193-60-8**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (redn. of, stability of radical from)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



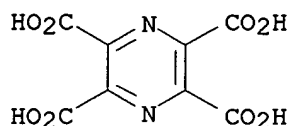
GI



AB Redn. of quinoxaline with V²⁺, Eu²⁺, or Ti³⁺ in 1.2 M HClO₄ yields a strongly absorbing yellow species, which is identified by ESR as the quinoxaliniun radical (I). Under favorable conditions, the radical persists for over 1 h in aq. soln. Rates for its formation indicate that it is generated by V²⁺ principally via an outer-sphere path but by Eu²⁺ and Ti³⁺ via inner-sphere redns. Oxidn. of the radical by (NH₃)₅CoBr₂⁺ proceeds by an outer-sphere path at a rate independent of added quinoxaline, Eu³⁺, V³⁺, or Ti(IV), showing that the active species in these reactions is the radical itself, rather than a small quantity of the reducing metal ion in mobile equil. with it. The radical does not conform to the LFER found between the std. potentials of pyridine-related radicals and outer-sphere reactivities.

L7 ANSWER 22 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

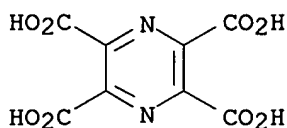
AN 1978:79774 CAPLUS
DN 88:79774
TI Electron transfer. 30. Chromium(III)-bound pyrazine radicals
AU Wu, M. Y.; Paton, S. J.; Fanchiang, Y. T.; Gelerinter, E.; Gould, E. S.
CS Dep. Chem., Kent State Univ., Kent, OH, USA
SO Inorganic Chemistry (1978), 17(2), 326-30
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal
LA English
IT **43193-60-8D**, chromium complex
RL: PRP (Properties)
(stability of)
RN 43193-60-8 CAPLUS
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB The pyrazine greens are strongly absorbing species (λ_{max} 645-650 nm, $\epsilon > 10^3$) formed by the action of Cr²⁺ on substituted pyrazines in aq. acidic soln. The reactions of 1 of the most stable of these derived from pyrazinecarboxamide, with a no. of (NH₃)₅Co(III) complexes yield Co²⁺, together with the same Cr(III) product as is formed in redn. by Cr²⁺ itself, but rates are several orders of magnitude lower. Such reactions are further inhibited by excess amide. Kinetic data support a sequence in which the green radical cation, formulated as Cr(III)pyr., dissoc. (k_1) to the parent pyrazine and Cr²⁺ which, in turn, may react with Co(III) (k_2) or return to the radical cation (k_{-1}). Values of k_1/k_{-1} obtained from measurements on different Co(III) systems are in agreement, and k_2 values for the reactions of fluoro- and bromopentamminecobalt(III) complexes with Cr²⁺ are consistent with literature rates. The calcd. rate of dissocn. of the green ion to Cr²⁺ is 10^{10} - 10^{11} times lower than the accepted range for substitution reactions at Cr(II) centers but several orders of magnitude above the heterolysis rates of the usual Cr(III) complexes in H₂O, suggesting that the rate of dissocn. is detd. by the rate of internal electron transfer within the radical cation. The equil. const. for the conversion of Cr(III)pyr. to Cr²⁺ is 0.1 of that estd. from the redn. potentials of Cr³⁺ and pyrazinecarboxamide, indicating that Cr(III)pyr. is 10 times as stable toward aquation as is the pyrazinecarboxamide complex of Cr(II).

L7 ANSWER 23 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1977:458883 CAPLUS
DN 87:58883
TI Electron transfer. 25. Effectiveness of external catalysts for outer-sphere reactions
AU Fanchiang, Y. T.; Thomas, Jean C.; Neff, V. D.; Heh, Jack C. K.; Gould, Edwin S.
CS Dep. Chem., Kent State Univ., Kent, OH, USA
SO Inorganic Chemistry (1977), 16(8), 1942-5
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal

LA English
 IT **43193-60-8**
 RL: PROC (Process)
 (voltammetry of)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB The activities of a variety of pyridine derivs. as catalysts for the Eu²⁺ and V²⁺ redns. of (NH₃)₅pyCo³⁺ are compared. Data are interpreted in terms of a sequence in which the catalyst is reduced (k₁) to a radical intermediate, after which the intermediate may undergo reversal of the initial electron transfer (k₋₁) or may react with Co(III) (k₂) in a rapid outer-sphere process. Several catalysts derived from 2,4-pyridinedicarboxylic acid (I) are more powerful than any reported previously. Although the specific rate k₁ is more sensitive to catalyst structure than is the ratio k₂/k₋₁, variation in the latter in this series is greater than has been obsd. in simple redox series that are unequivocally outer sphere. Moreover, k₁ values for the Eu²⁺ redns. are 10²-10³ times those for V²⁺, in contrast to simple outer-sphere series in which V²⁺ is the more rapid reductant. The implication is that k₁ and k₋₁ refer to inner-sphere processes for the present group of catalysts. Cyclic voltammograms of all catalysts exhibit quasireversible redn. peaks (1M HClO₄, 25.degree. in the range -0.53 to -0.81 V (vs. SCE). Conjugated species not exhibiting catalytic activity are reduced at potentials outside this range. The catalytic sequence is blocked if the potential barrier to redn. of the catalyst is too high, but may become inoperative also in cases where the radical intermediate, although readily formed, is too sluggish a reductant.

L7 ANSWER 24 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1976:578975 CAPLUS
 DN 85:178975
 TI Substituted pyrazines
 IN Baer, Donald R.; Cairncross, Allan; Smith, Michael
 PA du Pont de Nemours, E. I., and Co., USA
 SO U.S., 9 pp.
 CODEN: USXXAM

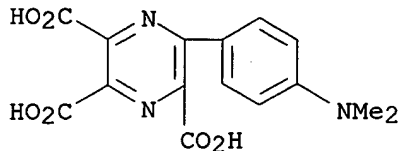
DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3963715	A	19760615	US 1973-363804	19730525
				US 1972-240296	19720331

IT **60033-70-7**
 RL: USES (Uses)
 (dye, for polyamide fibers, prepn. of)
 RN 60033-70-7 CAPLUS
 CN Pyrazinetetracarboxylic acid, [4-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)

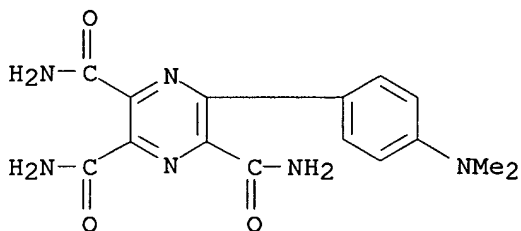
NAME)

IT **60033-69-4P**

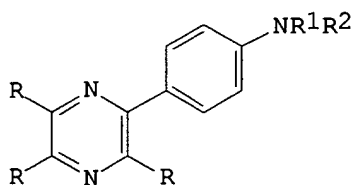
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and hydrolysis of)

RN 60033-69-4 CAPLUS

CN Pyrazinetricarboxamide, 6-[4-(dimethylamino)phenyl]- (9CI) (CA INDEX
NAME)



GI



I

AB Pyrazine dyes (I, R = CN, CONH₂, CO₂H; R₁ = Me, CH₂CH₂OBz; R₂ = Me, Ph, CH₂CH₂OBz) were prep'd. and used CN, R₁ dye polyester and polyamide fiber fast yellow shades. Thus, a mixt. of tetracyanopyrazine and PhNMe₂ [121-69-7] in Me₂SO was heated at 100.degree. for 8 hr to give I (R = CN, R₁ = R₂ = Me) [60033-71-8]. The other I were similarly prep'd.

L7 ANSWER 25 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1976:560033 CAPLUS

DN 85:160033

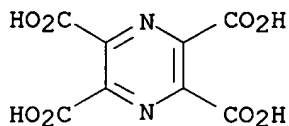
TI Synthesis of heterocyclic analogs of pyromellitic acid and their
derivatives

AU Artamonov, A. A.; Nesterchuk, L. A.; Anchugova, L. M.; Matveev, N. G.

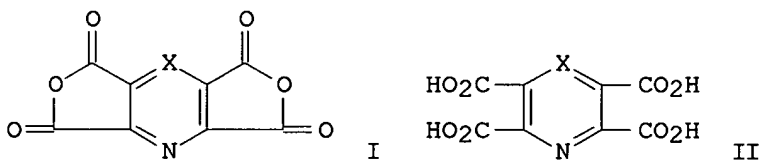
CS USSR

SO Tezisy Dokl. - Simp. Khim. Tekhnol. Geterotsikl. Soedin. Goryuch. Iskop.,
2nd (1973), 176 Publisher: Donetsk. Gos. Univ., Donetsk, USSR.

CODEN: 33XLA8
DT Conference
LA Russian
IT **43193-60-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, by thionyl chloride)
RN 43193-60-8 CAPLUS
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)

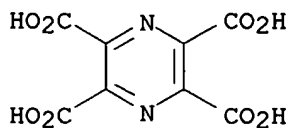


GI

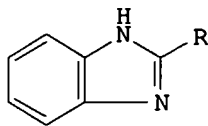


AB The title compds. I (X = CH, N) were obtained in >90% yields by treatment of II with SOCl₂.

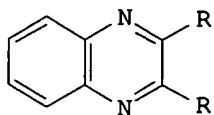
L7 ANSWER 26 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1976:446577 CAPLUS
DN 85:46577
TI Oxidation of condensed N-heteroaromatic compounds by ozone in the liquid phase
AU Tyupalo, N. F.; Yakobi, V. A.; Stepanyan, A. A.; Budennaya, L. F.; Kozorezov, A. Z.
CS Rubezhan. Filial, Voroshil. Mashinostroït. Inst., Rubezhnoe, USSR
SO Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1976), 42(4), 394-8
CODEN: UKZHAU; ISSN: 0041-6045
DT Journal
LA Russian
IT **43193-60-8P**
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in oxidn. of cinnazine by ozone)
RN 43193-60-8 CAPLUS
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



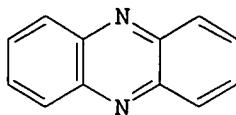
GI



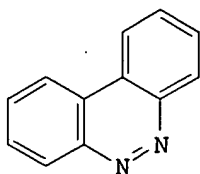
I



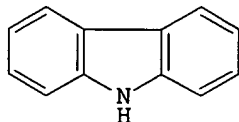
II



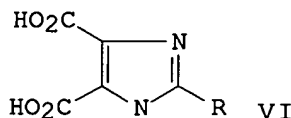
III



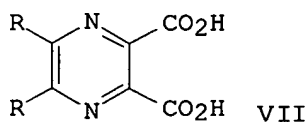
IV



V



VI



VII

AB Oxidn. of I (R = H, Me) and II (R = H, Cl, OH) by ozone in the liq. phase gave 27.5-96.2% diozonides. Analogous oxidn. of III, IV, and V gave 87.5-100% tetraozonides. Decompn. of the ozonides with AcOH at 20.degree. gave 4.7 and 12.2% VI (R = Me, H), 8.4-18.3% VII (R = H, Cl, CO₂H) and 5.1% pyridazine-3,4,5,6-tetracarboxylic acid.

L7 ANSWER 27 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1976:61707 CAPLUS

DN 84:61707

TI Pyrazine compounds

IN Cairncross, Allan

PA du Pont de Nemours, E. I., and Co., USA

SO U.S., 15 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

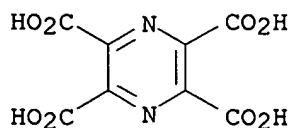
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3915974	A	19751028	US 1973-375050	19730629
				US 1973-375050	19730629

IT 43193-60-8 58071-12-8

RL: TEM (Technical or engineered material use); USES (Uses)
(detergent builders)

RN 43193-60-8 CAPLUS

CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



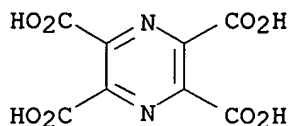
Patel

<11/18/2003>

RN 58071-12-8 CAPLUS
 CN Pyrazinetetracarboxylic acid, dimethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 43193-60-8
 CMF C8 H4 N2 O8



CM 2

CRN 67-56-1
 CMF C H4 O

H₃C-OH

GI For diagram(s), see printed CA Issue.
 AB Pyrazine compds., such as 1,4,5,6-tetrahydro-5,6-dioxo-2,3-pyrazinedicarbonitrile (I) [36023-64-0] and di-Me 1,4,5,6-tetrahydro-5,6-dioxole-2,3-pyrazinedicarboxylate [58084-24-5], were useful as builders in laundry detergents. Thus, a detergent contg. I 35, Na tridecylbenzenesulfonate 14, Na silicate 5, Na₂SO₄ 38, and water 8% had detergency similar to a detergent contg. Na tripolyphosphate instead of I.

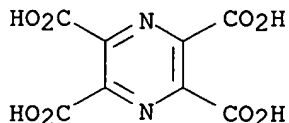
L7 ANSWER 28 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1975:4305 CAPLUS
 DN 82:4305
 TI Thermostable tetraalkyl pyrazinetetracarboxylates
 IN Boutte, Daniel; Lecolier, Serge; Brunet, Jean J.
 PA Societe National des Poudres et Explosifs
 SO Ger. Offen., 25 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2412110	A1	19741003	DE 1974-2412110	19740313
				FR 1973-9324	19730315
	FR 2221452	A1	19741011	FR 1973-9324	19730315
	NL 7402706	A	19740917	NL 1974-2706	19740228
				FR 1973-9324	19730315
	GB 1420057	A	19760107	GB 1974-11222	19740313
				FR 1973-9324	19730315
	BE 812396	A1	19740916	BE 1974-142086	19740315
				FR 1973-9324	19730315
IT	54722-63-3P				

Patel

<11/18/2003>

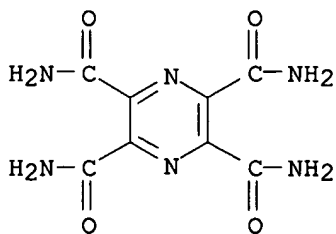
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and reaction with alcs.)
RN 54722-63-3 CAPLUS
CN Pyrazinetetracarboxylic acid, dipotassium salt (9CI) (CA INDEX NAME)



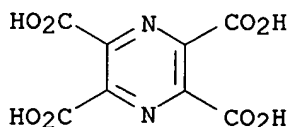
● 2 K

GI For diagram(s), see printed CA Issue.
AB Nine esters I [R = C3-12 alkyl or Et(OCH2CH2)3] with good heat stability,
useful as lubricants or plasticizers, were prepd. by esterification of I
(R = OH) di-K salt with alcs. in H2SO4.

L7 ANSWER 29 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1974:403884 CAPLUS
DN 81:3884
TI Hydrogen cyanide chemistry. VII. Diiminosuccinonitrile condensation with
diaminomaleonitrile
AU Begland, R. W.; Hartter, D. R.; Donald, D. S.; Cairncross, A.; Sheppard,
W. A.
CS Cent. Res. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE, USA
SO Journal of Organic Chemistry (1974), 39(9), 1235-9
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
IT **22051-80-5P 43193-60-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 22051-80-5 CAPLUS
CN Pyrazinetetracarboxamide (9CI) (CA INDEX NAME)

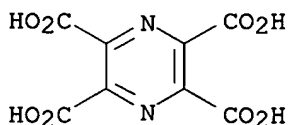


RN 43193-60-8 CAPLUS
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



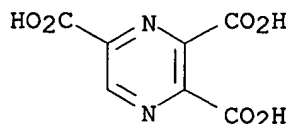
AB Diiminosuccinonitrile (I) condenses with diaminomaleonitrile (II) to give tetracyanopyrazine, aminotricyanopyrazine, and 2,3-diamino-5,6-dicyanopyrazine. By choice of conditions any one of these tetrafunctional pyrazines can be the major product; linear 1:1 and 2:1 adducts are formed under other conditions and the 1:1 adduct can be cyclized to the pyrazines. I reacts with 1 mol. of water to form an intermediate, probably iminooxalyl cyanide, which condenses with II to give 2-amino-3-hydroxy-5,6-dicyanopyrazine. Two moles of water hydrolyze I to oxalyl cyanide which condenses with II to give tetracyanopyrazine under acidic conditions and 1,4,5,6-tetrahydro-5,6-dioxo-2,3-dicyanopyrazine under neutral conditions.

L7 ANSWER 30 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1973:537087 CAPLUS
 DN 79:137087
 TI Heterocyclic analogs of pyromellitic dianhydride
 AU Artamonov, A. A.; Nesterchuk, L. A.; Anchugova, L. M.; Sheinkman, A. K.
 CS Donetsk. Gos. Univ., Donetsk, USSR
 SO Izvestiya Vysshikh Uchebnykh Zavedenii, Khimiya i Khimicheskaya Tekhnologiya (1973), 16(8), 1209-11
 CODEN: IVUKAR; ISSN: 0579-2991
 DT Journal
 LA Russian
 IT **43193-60-8P**
 RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



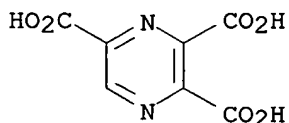
GI For diagram(s), see printed CA Issue.
 AB Pyridinetetracarboxylic dianhydride (I) was prepd. in 80-92% yield by cyclization of 2,3,5,6-pyridinetetracarboxylic acid with SOCl₂. Analogously prepd. was 80% pyrazinetetracarboxylic dianhydride (II).
 L7 ANSWER 31 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1972:401215 CAPLUS
 DN 77:1215
 TI Germination of bacterial spores by calcium chelates of dipicolinic acid analogs
 AU Lewis, James C.
 CS West. Reg. Res. Lab., Agric. Res. Serv., Berkeley, CA, USA
 SO Journal of Biological Chemistry (1972), 247(6), 1861-8

CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
IT **37758-36-4**
RL: PRP (Properties)
(assocn. const. for)
RN 37758-36-4 CAPLUS
CN Pyrazinetricarboxylic acid, calcium salt (2:3) (9CI) (CA INDEX NAME)



● 3/2 Ca

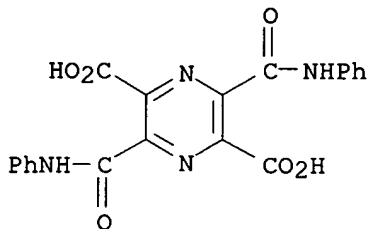
IT **23046-95-9P**
RL: PREP (Preparation)
(prepn. of)
RN 23046-95-9 CAPLUS
CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



AB Among 8 Ca salts of analogs of dipicolinic acid (I) [499-83-2] tested for induction of *Bacillus megaterium* ATCC 10778 spore germination, only 4H-pyran-2,6-dicarboxylic acid (II) [23047-07-6] was as active as I. Calcium 3-methyldipicolinate [34812-34-5] and calcium 4-methyl-4H-pyran-2,6-dicarboxylate [34812-35-6] were active but the germination proceeded less rapidly. In the presence of a threshold concn. (0.020M) of calcium dipicolinate [6893-30-7], calcium pyrimidine-2,4-dicarboxylate [34812-37-8], calcium pyrazine-2,6-dicarboxylate [34812-38-9], calcium 4-hydroxydipicolinate [34812-39-0], and calcium furan-2,5-dicarboxylate [34812-40-3] also showed activity. A hypothesis is proposed for mobilization of native Ca dipicolinate of dormant spores during germination, by way of a dimerization like that exhibited in crystals of Ca dipicolinate trihydrate and the isostructural Ca pyrandicarboxylate trihydrate.

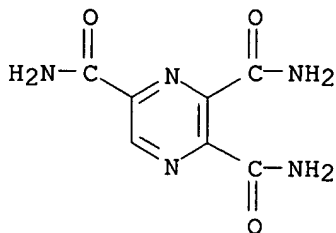
L7 ANSWER 32 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1971:421112 CAPLUS
DN 75:21112
TI Polyimides based on pyrazinetetracarboxylic dianhydride and some related model compounds
AU Vaughan, George B.; Rose, Jerry C.; Brown, Gordon P.
CS Mellon Inst., Carnegie-Mellon Univ., Pittsburgh, PA, USA

SO Journal of Polymer Science, Polymer Chemistry Edition (1971), 9(4),
1117-38
CODEN: JPLCAT; ISSN: 0449-296X
DT Journal
LA English
IT **34067-93-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 34067-93-1 CAPLUS
CN 2,5-Pyrazinedicarboxylic acid, 3,6-bis(phenylcarbamoyl)- (8CI) (CA INDEX
NAME)



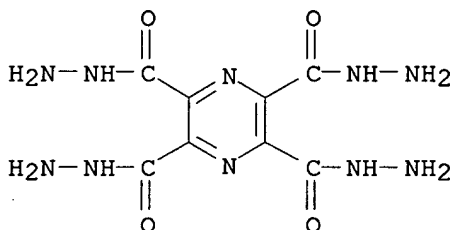
GI For diagram(s), see printed CA Issue.
AB Pyrazinetetracarboxylic dianhydride (I) condensed with heterocyclic
diamines which did not contain an N-N linkage gave polyimides with a lower
mol. wt. and thermal stability than the corresponding polypyromellitimides
as a result of synthesis problems arising from the low reactivity of the
diamines and the ready decarboxylation of pyrazinecarboxylic acids. The
ir spectra of model compds. indicated the proposed condensate structure
had recurring amideimide units rather than a complete polyimide structure.
Unsuccessful polymns. were attempted by condensation of I with
3,5-diamino-1,2,4-oxadiazole, 3,4-diamino-1,2,5-oxadiazole,
2,4-diamino-6-methyl-s-triazine, and 2,6-diaminopyridine.

L7 ANSWER 33 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1969:115129 CAPLUS
DN 70:115129
TI Synthesis of pyrazines, pyrazine[2,3-d]pyridazines, and a
dipyridazino[4,5-b:4',5'-e]pyrazine
AU Rao, R. Bhima; Castle, Raymond N.
CS Univ. New Mexico, Albuquerque, NM, USA
SO Journal of Heterocyclic Chemistry (1969), 6(2), 255-8
CODEN: JHTCAD; ISSN: 0022-152X
DT Journal
LA English
IT **22051-71-4P 22051-75-8P 22051-80-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 22051-71-4 CAPLUS
CN 2,3,5-Pyrazinetricarboxamide (8CI) (CA INDEX NAME)



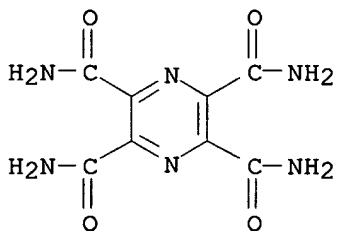
RN 22051-75-8 CAPLUS

CN 2,3,5,6-Pyrazinetetracarboxylic acid, tetrahydrazide (8CI) (CA INDEX NAME)



RN 22051-80-5 CAPLUS

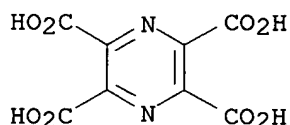
CN Pyrazinetetracarboxamide (9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB 2-(D-arabino)-Tetrahydroxybutylquinoxaline was subjected to oxidn. with KMnO_4 to give pyrazine-2,3,5-tricarboxylic acid, which was esterified to the tri-Et ester, and treated with $\text{N}_2\text{H}_4\text{-MeOH}$ to give pyrazino[2,3-d]pyridazine-5,8-dione-2-carbohydrazide. Treatment of the ester with $\text{NH}_3\text{-MeOH}$ gave pyrazine-2,3,5-tricarboxamide. Pyrimido[4,5-b]quinoxaline-2,4-dione was hydrolytically decarboxylated to 2-aminoquinoxaline, which was acetylated and oxidized with KMnO_4 to give 2-aminopyrazine-5,6-dicarboxylic acid, whose di-Et ester formed 2-aminopyrazino[2,3-d]pyridazine-5,8-dione on treatment with $\text{N}_2\text{H}_4\text{-MeOH}$. 5,8-Diaminopyrazino[2,3-d]pyridazine was treated with picryl fluoride in Me_2SO to give 5,8-bis(picrylamino)pyrazino[2,3-d]-pyridazine. o-(H_2N) $2\text{C}_6\text{H}_4$ was oxidized with FeCl_3 , and the 2,3-diaminophenazine produced was treated with KMnO_4 to give pyrazine-2,3,5,6-tetracarboxylic acid, whose tetra-Et ester (I) was converted into pyrazine-2,3,5,6-tetracarbohydrazide on treatment with $\text{N}_2\text{H}_4\text{-MeOH}$. This was refluxed with 10% HCl to give dipyridazino[4,5-b:4',5'-e]pyrazine-1,4,6,9-tetrone (II). Treatment of I with $\text{NH}_3\text{-MeOH}$ gave pyrazine-2,3,5,6-tetracarboxamide.

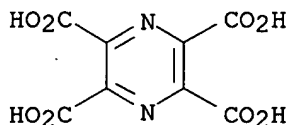
L7 ANSWER 34 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:112181 CAPLUS
DN 55:112181
OREF 55:21140e-h
TI Cyclization of 1,5-diphenyl-1,3,5-pentanetrione with ethyl oxalate
3,5-Dibenzoyl-1,2,4-cyclopentanetrione and its quinoxaline
AU Light, Robley J.; Hauser, Charles R.
CS Duke Univ., Durham, NC
SO Journal of Organic Chemistry (1961), 26, 1296-9
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA Unavailable
IT **43193-60-8**, 2,3,5,6-Pyrazinetetracarboxylic acid
(prepn. of)
RN 43193-60-8 CAPLUS
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB NaOEt (from 3.5 g. Na in 250 ml. alc.) refluxed 5 hrs. with 10 g. 1,5-diphenyl-1,3,5-pentanetrione (I) and 5.5 g. Et oxalate, the mixt. evapd., the residue poured into 500 ml. ice H₂O, extd. with Et₂O, the solid collected, shaken with aq. NaHCO₃, sepd., and the solvent removed gave 2.8 g. I. Acidification of the bicarbonate soln. gave 4.1 g. 3,5-dibenzoyl-1,2,4-cyclopentanetrione (II), m. 154-6.degree. (Me₂CO). Approx. the same yield of II was obtained when the reaction was repeated with 0.113 mole NaOEt. The yield was not improved by removing the alc. as an azeotrope with C₆H₆ before acidification. II (1.5 g.) in 45 ml. 95% alc. treated several min. on the steam bath with 0.6 g. o-phenylenediamine gave 0.6 g. 1,3-dibenzoyl-2-oxocyclopenteno[4,5-b]-quinoxaline (III), m. 271-4.degree. (C₆H₆). KMnO₄ (5.2 g.) in 25 ml. H₂O added dropwise to 1.2 g. III in 20 ml. 5% KOH, the mixt. heated 2 hrs., filtered, the filtrate concd., and acidified gave BzOH and the di-K salt of the product. The BzOH removed by suspending the solid in hot alc. and filtering left 0.65 g. BzOH. The solid was recrystd. from 10 ml. 20% HCl to give 0.15 g. pyrazinetetracarboxylic acid (IV), m. 195-9.degree. (decompn.). KMnO₄ (20.6 g.) in 100 ml. H₂O added to 1.8 g. phenazine in 20 ml. hot H₂O contg. one pellet KOH and the product isolated as above gave 0.7 g. IV. The infrared spectra were given for the above compds.

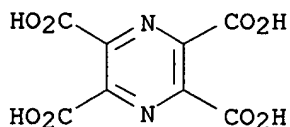
L7 ANSWER 35 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:93514 CAPLUS
DN 55:93514
OREF 55:17643e-h
TI On pyrazino[d,d']ditropone and its derivatives
AU Asao, Toyonobu
CS Tohoku Univ., Sendai
SO Bulletin of the Chemical Society of Japan (1961), 34, 151-3
CODEN: BCSJA8; ISSN: 0009-2673
DT Journal

LA Unavailable
IT **43193-60-8**, 2,3,5,6-Pyrazinetetracarboxylic acid
(prepn. of)
RN 43193-60-8 CAPLUS
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB 5-Nitrosotropolone (I) (0.9 g.) and 2,5-diaminotroponimine (II).2HCl (1.1 g.) refluxed 20 min. in 40 ml. MeOH and cooled produced 1.3 g. pyrazino[d,d']ditroponemonoimine monoxime (III).HCl, brownish orange crystals, m. above 300.degree.. Neutralization of aq. III.HCl with NaHCO₃ gave III, brown powder, m. above 300.degree.; picrate, red needles, darkened about 225.degree., m. above 300.degree.. III with alk. KMnO₄ gave pyrazinetetracarboxylic acid, plates, m. 205.degree. (decompn.); tetra-Me ester, needles, m. 181-2.degree. (MeOH-C₆H₆). I acetate (0.2 g.) and 0.2 g. II.2HCl refluxed 10 min. in 10 ml. MeOH gave 0.3 g. red needles, darkened about 250.degree., which on neutralization gave III acetate, brown powder, m. above 300.degree.. Attempted acetylation of III gave a black powder. Gentle heating of 0.1 g. III.HCl in 1.5 ml. 3N NaOH (NH₃ evolved), keeping 30 min. at room temp., and acidifying with HOAc produced 70 mg. pyrazino[d,d']ditropone monoxime (IV), orange needles, m. 266.degree. (decompn.) (C₅H₅N); dioxime, fine red crystals, m. above 300.degree.; 2,4-dinitrophenylhydrazone, violet crystals, decompd. at 265.degree.. IV (0.3 g.), 0.3 g. CuCO₃, and 10 ml. 80% HCO₂H heated 120 hrs. at 70.degree., cooled, filtered, and neutralized with NaHCO₃ gave 70 mg. pyrazino[d,d']ditropone (V), golden needles, m. 244-5.degree. (decompn.) (C₅H₅N). V was also prepd. by heating 0.15 g. III.HCl, 0.15 g. CuCO₃, and 4.5 ml. 80% HCO₂H 70 hrs. at 80.degree..

L7 ANSWER 36 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:8134 CAPLUS
DN 55:8134
OREF 55:1627e-i,1628a-d
TI Quinoxalotropone derivatives. II. Condensation products of 5-nitro- and 5-nitrosotropolones with o-phenylenediamine
AU Ito, Sho
CS Tohoku Univ., Sendai
SO Sci. Repts. Tohoku Univ., First Ser. (1959), 43, 216-22
DT Journal
LA English
IT **43193-60-8**, 2,3,5,6-Pyrazinetetracarboxylic acid
(prepn. of)
RN 43193-60-8 CAPLUS
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)

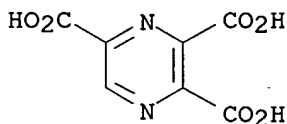


GI For diagram(s), see printed CA Issue.

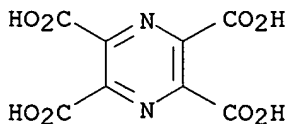
AB cf. CA 54, 5673c. Refluxing substituted 5-nitrosotropolones (I) (substituents other than H given in parentheses) with 1.1 equivalents o-phenylenediamine (II) in 7 vols. EtOH 20 min. gave yellow cryst. substituted quinoxalotropone oximes (III). Thus, I (X = Br) gave 76% III (X = Br), m. 206.degree. (decompn.); I (X = Y = Br) gave 26% III (X = Y = Br), m. 190.5.degree. (decompn.); I (Z = Me) gave 56% III (Z = Me), m. 246.degree. (decompn.); I (X = iso-Pr) gave 26% III (X = iso-Pr), 199.5-200.5.degree. (decompn.); I (X = PhO) gave 49% III (X = PhO), m. 205.degree. (decompn.); I (X = Ph) gave 10% III (X = Ph), m. 235-6.degree. (decompn.). Refluxing 0.11 g. I (X = Ph) with 0.07 g. II in 1.5 ml. HOAc gave a product, which eluted from alumina with C6H6 gave 0.04 g. 2-methyl-benzimidazole, m. 174.degree.; elution with EtOAc gave 0.015 g. III (X = Ph). Tropoquinone dioxime (0.2 g.) and 0.16 g. II refluxed in 10 ml. MeOH gave 0.03 g. quinoxalotropone oxime (IV). Similarly, 0.2 g. tropoquinone trioxime, 0.16 g. II, and 10 ml. MeOH gave 0.03 g. IV. 5-Nitrotropolone (V) (0.2 g.) and 0.15 g. II in 30 ml. C6H6 was refluxed 2 hrs. to give 0.1 g. quinoxalotropone oxime (VI), m. 249.degree. (decompn.), λ (MeOH) 238, 279, 400 m. μ . (log ϵ 4.40, 4.54, 4.16). The mother liquors from VI yielded orange-red scales (VII), m. 119.degree. (decompn.), which analyzed correctly for a 1:1 mol. compd. of V and II, whose ultraviolet spectrum was similar to that of an alk. soln. of V. Shaking a C6H6 solution of VII with 2N HCl gave V. Refluxing 0.2 g. V, 0.15 g. II, and 30 ml. EtOH 40 min. gave 0.06 g. VI and evapn. of the filtrate gave 0.09 g. yellow needles (VIII), m. 156-8.degree. (decompn.), whose ultraviolet spectrum was identical to that of VII. VIII showed no m.p. depression when mixed with the compd., m. 156-8.degree., obtained previously by Nozoe, et al. (CA 53, 18885c). V (0.2 g.), 0.15 g. II, and 5 ml. HOAc heated on a water bath 15 min. gave 0.28 g. VII. VII was obtained by refluxing 0.1 g. V, 0.07 g. II, and 20 ml. MeOH 15 min. Refluxing 0.2 g. VII in 1 ml. MeOH 30 min. gave 0.03 g. VI. V (0.1 g.), 0.15 g. II, and 20 ml. EtOH treated as above gave 0.09 g. VI and 0.03 g. VII. Acetylation of VI gave quinoxalotropone oxime acetate, m. 207-8.degree. (decompn.). Hydrolysis of 0.05 g. VI with 0.1 g. CuCO₃ and 3 ml. HCO₂H gave quinoxalotropone, m. 192.degree.. Hydrogenation of 0.05 g. VI and 0.01 g. Pt in 60 ml. MeOH yielded a product, which acetylated gave γ -hydroxy-2,3-pentamethylenequinoxaline acetate, m. 282.degree. (decompn.). Oxidn. of 0.3 g. VI gave quinoxaline-2,3-dicarboxylic acid, m. 190.degree. (decompn.). 5,7-Dinitrohinokitiol (0.2 g.), 0.1 g. II, and 10 ml. MeOH heated on a water bath 5 min. gave 0.12 g. violet crystals (IX), C₁₆H₁₄O₄N₄, m. 156.degree. (decompn.), λ 252, 333, 494 m. μ . (log ϵ 4.38, 3.76, 3.82); Me ether m. 208.degree.. Similarly, 3,5-dinitrotropolone gave violet crystals (X), m. above 300.degree., ultraviolet spectrum similar to that of IX. The product of oxidn. of 0.8 g. X with 7.8 g. KMnO₄ in dil. alk. soln. at 80.degree. was collected as the Ag salt and decompd. in acetone to give pyrazinetetracarboxylic acid, m. 205.degree. (decompn.) (EtOAc). Refluxing 0.1 g. 3,7-di-bromo-5-nitrotropolone and 0.04 g. II in HOAc 5 min. gave yellow needles, C₁₃H₁₁N₃O₄Br₂, m. 171-2.degree. (MeOH), whose analyses and ultraviolet spectrum suggested it to be a 1:1 mol. compd. The formation of VI from V

was explained as a consequence of the prior redn. of V by II to give 5-nitrosotropolone.

L7 ANSWER 37 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1959:89456 CAPLUS
 DN 53:89456
 OREF 53:16141g-i,16142a-i,16143a-c
 TI Pyrazine derivatives. IV. Preparation and specific oxidation of 2,3-dialkoxy- and 2,3-diaryloxyquinoxalines
 AU Mager, H. I. X.; Berends, W.
 CS Technol. Univ. Delft, Neth.
 SO Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1959), 78, 5-21
 CODEN: RTCPB4; ISSN: 0370-7539
 DT Journal
 LA English
 IT **23046-95-9**, 2,3,5-Pyrazinetricarboxylic acid **43193-60-8**, 2,3,5,6-Pyrazinetetracarboxylic acid (prepn. of)
 RN 23046-95-9 CAPLUS
 CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)

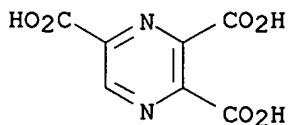


GI For diagram(s), see printed CA Issue.
 AB cf. C.A. 53, 10240i. Unlike many other substituted quinoxaline derivs., 2,3-dialkoxy- and 2,3-diaryloxyquinoxalines, C₆H₄.N:CR.R1:N (I) were known to be relatively stable to KMnO₄. The homocyclic substituted quinoxalines, R₂C₆H₃.N:CR.1:N (II), were intermediates for the prepn. of pyrazinecarboxylic acids (III). The quinoxalines I (R = H, CO₂H, (CHOH)3CH₂OH, Me, Me, Cl; R₁ = H, CO₂H, H, H, Me, Cl) were oxidized to III on a preparative scale by alk. KMnO₄ but introduction of the 2,3-dialkoxy and 2,3-diaryloxy groups gave the quinoxaline ring unexpected and outstanding stability. I (R = R₁ = MeO) (IV) was oxidized above 100.degree. to yield a small amt. of III but the stability increased through I (R = R₁ = EtO) (V) to I (R = R₁ = PrO) (VI) to such an extent that VI heated 2.5 hrs. at 150.degree. with alk. KMnO₄ gave a scarcely visible amt. of MnO₂. II (R = R₁ = Me, R₂ = 5 (or 6)-NO₂) (VII, VIII) was less stable to KMnO₄ but without production of III, indicating that degradation had taken place in the heterocyclic ring. Na (4.6 g.) in 100

ml. abs. MeOH stirred (ice bath) at 0.degree. with portionwise addn. of 19.9 g. I ($R = R' = Cl$) (IX) [prepd. by the action of PCl_5 on I ($R = R' = OH$) (X)], the stirred mixt. refluxed 1 hr., the neutral soln. poured into 300 ml. water, and the filtered product washed with water gave 17 g. IV, m. 92-3.degree. (dil. alc.). V, m. 78.degree., and VI, m. 48.degree. (dil. alc.), were similarly prepd. PhOH (28 g.) and 10 g. KOH at 120.degree. (oil bath) treated gradually with 10 g. IX and the mixt. kept 20-30 min. at 120.degree., the cooled residue taken up in warm N KOH, and the filtered product washed with hot water gave 14 g. I ($R = R' = PhO$), m. 166.degree. (Lockhart and Turner, C.A. 31, 39263). Similarly was prepd. I ($R = R' = p-O_2NC_6H_4O$), m. 210-16.degree. (dil. Me₂CO). No corresponding .omicron.-NO₂ or 2,4-(O₂N)₂ compds. were obtained on account of violent reactions with pyrotechnic phenomena. Concd. H₂SO₄ (165 ml.) heated 5 min. at 110.degree. with 74 g. 2,3-(O₂N)₂C₆H₃NHAc (from nitration of m-O₂NC₆H₄NHAc and recrystn. from 2:1 C₆H₆-Me₂CO), the mixt. poured into 1 kg. ice and 500 ml. water, and the water-washed and dried product (49 g.) recrystd. repeatedly gave only 60% 2,3-(O₂N)₂C₆H₃NH₂ (XI), m. 126.degree. (Pausacker and Scroggie, C.A. 49, 13924g). Deacetylation with concd. HCl in alc. gave a practically quant. conversion to XI. PhCl sulfonated and nitrated, the 4,3,5-Cl(O₂N)₂C₆H₂SO₃H isolated as the K salt, boiled with concd. NH₄OH, and the salt desulfonated according to Schultz [Org. Syntheses, 31, 45 (1951)] gave 2,6-(O₂N)₂C₆H₃NH₂, partially reduced by refluxing in alc. with warm aq. Na₂S.9H₂O and NaHCO₃ to give 1,2,3-(H₂N)₂C₆H₃NO₂ (XII). Reduction of 95 g. 2,4-(O₂N)₂C₆H₃NH₂ according to Griffin and Peterson [Org. Syntheses, Collective Vol. III, 242(1955)] gave 45 g. 1,2,4-(H₂N)₂C₆H₃NO₂ (XIII), m. 197-8.degree.. Acetylation of 61.5 g. 4-MeOC₆H₄NH₂, nitration of the product, and deacetylation with KOH in MeOH yielded 63.5 g. 2,4-O₂N(MeO)C₆H₃NH₂ (XIV). XII (10 g.) and 16 g. (CO₂H)₂.2H₂O in 200 ml. 50% AcOH refluxed 3 hrs., the cooled mixt. filtered from 6 g. product, the filtrate evapd. in vacuo, the residue crystd. (min. of 50% AcOH), the crops combined, and recrystd. (50% AcOH and Norit) gave 8 g. II ($R = R' = OH$, $R_2 = 5-NO_2$) (XV), m. 296.degree. (decompn.), also obtained by refluxing 10 g. XII 2.0 to 2.5 hrs. in 125 ml. (CO₂Et)₂, and converted in a high over-all yield to VII and its derivs. XV (6.5 g.) and 15 g. PCl₅ distd. at 160-70.degree. to cessation of distn. of POCl₃, the product crystd. (dil. Me₂CO), and dried over P₂O₆ in vacuo gave 7 g. II ($R = R' = Cl$, $R_2 = 5-NO_2$) (XVI). XVI (7 g.) in 300 ml. MeOH refluxed 20 min. with dropwise addn. of 1.32 g. Na in 50 ml. MeOH with stirring, the mixt. refluxed 20-25 min., and evapd. in vacuo yielded 81-8% VII, m. 156.degree. (dil. Me₂CO). XIII (7.5 g.) and 12.5 g. (CO₂H)₂.2H₂O refluxed 30 min. with stirring with 75 ml. 6N HCl, the mixt. kept overnight at room temp., filtered, the ppt. washed with 50 ml. hot water, taken up in 200 ml. boiling 2N NaOH, the hot red soln. neutralized with 4N HCl, the yellow mixt. filtered, and the ppt. washed (100 ml. distd. water) and dried (P₂O₅ in vacuo) yielded 10 g. material, recrystd. (40 parts 50% AcOH and Norit) to give pure II ($R = R' = HO$, $R_2 = 6-NO_2$) (XVII), m. 345-6.degree. (decompn.). Finely powd. XVI (18 g.) distd. at 160-70.degree. over 42 g. PCl₅, the cooled mixt. taken up in ice water, the dried product extd. with C₆H₆, the ext. boiled with Norit, the filtered soln. evapd. in vacuo, and the product crystd. (ligroine) gave 17 g. II ($R = R' = Cl$, $R_2 = 6-NO_2$), m. 153.degree., refluxed with NaOMe in MeOH to give 16 g. VIII, m. 175-5.5.degree. (MeOH). VII (500 mg.) in 50 ml. 96% alc. refluxed 30 min. with 2 ml. N₂H₄.H₂O and 50 mg. 5% Pd-C and the filtered soln. evapd. in vacuo yielded 70-80% II ($R = R' = MeO$, $R_2 = 5-NH_2$) (XVIII), m. 96-7.degree. (ligroine, b. 60-80.degree.). Similar reduction of VIII yielded 75-80% II ($R = R' = MeO$, $R_2 = 6-NH_2$) (XIX), m. 130-30.5.degree. (ligroine). VII and VIII refluxed 2 hrs. with Na₂S.9H₂O

in 80% alc. did not reduce, but did with $\text{Fe}(\text{OH})_2$. XVIII (150 mg.) refluxed 2 hrs. in 6 ml. 6N HCl, filtered, the ppt. washed with alc., the HCl salt (155 mg.) dried, and recrystd. (50 ml. boiling water) gave the free II ($\text{R} = \text{R}_1 = \text{HO}$, $\text{R}_2 = 5\text{-NH}_2$), m. 339-4.degree. (decompn.). The colorless dealkylation product from XIX taken up in 1:20 H_2O -alc. gave II ($\text{R} = \text{R}_1 = \text{HO}$, $\text{R}_2 = 6\text{NH}_2$) HCl salt, m. above 365.degree., giving an intense blue-violet color with FeCl_3 . The compds. were also prepd. by reductions of XV and XVII with Na_2S . XIV (42 g.) reduced with SnCl_2 in concd. HCl, the mixt. poured into 30% NaOH, extd. with C_6H_6 , the ext. evapd., the residue refluxed 3.5 hrs. with 250 ml. $(\text{CO}_2\text{Et})_2$, the mixt. filtered, the ppt. washed with ligroine, and dried gave 35 g. II ($\text{R} = \text{R}_1 = \text{OH}$, $\text{R}_2 = 6\text{-MeO}$), converted by refluxing 1 hr. (oil bath) at 125.degree. with 75 ml. POCl_3 and distg. the excess POCl_3 , taking up the residue in ice water, filtering, extg. the residue with C_6H_6 , and evapg. the decolorized (Norit) ext. to 32-3 g. II ($\text{R} = \text{R}_1 = \text{Cl}$, $\text{R}_2 = 6\text{-MeO}$) (XX), m. 159-60.degree. (Me_2CO). XX (5 g.) refluxed with 1 g. Na in 150 ml. MeOH, the neutral soln. concd., kept at 0.degree., filtered, the ppt. washed with cold MeOH, and recrystd. yielded 83-9% 2,3,6-trimethoxy-quinoxaline, m. 127.degree.. XX cannot be dealkylated with HI or HBr since the Cl groups are rapidly replaced with HO groups (Lane and Williams, C.A. 51, 2808g). The oxidations of I with KMnO_4 were carried out according to previous communications (C.A. 53, 10241i).

L7 ANSWER 38 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1959:56476 CAPLUS
 DN 53:56476
 OREF 53:10240i,10241a-i
 TI Pyrazine derivatives. II. Preparation of pyrazine-2,3,5-tricarboxylic acid and of pyrazine-2,5- and -2,6-dicarboxylic acids
 AU Mager, H. I. X.; Berends, W.
 CS Technol. Univ., Delft, Neth.
 SO Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1958), 77, 827-41
 CODEN: RTCPB4; ISSN: 0370-7539
 DT Journal
 LA Unavailable
 IT **23046-95-9**, 2,3,5-Pyrazinetricarboxylic acid (and derivs.)
 RN 23046-95-9 CAPLUS
 CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)

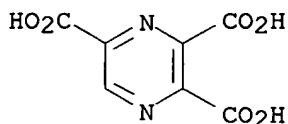


AB cf. C.A. 51, 12104e. Pyrazine-2,3,5-tricarboxylic acid (I) was prepd. by oxidation of the readily available 2-(D-arabo-tetrahydroxybutyl)quinoxaline (II) and was easily decarboxylated to the 2,5- (III) and 2,6-pyrazinedicarboxylic acids (IV). $\text{N}_2\text{H}_4 \cdot \text{H}_2\text{O}$, ogr;-(H_2N) $2\text{C}_6\text{H}_4$, and p-toluyld-isoglucosamine heated 30 min. in dil. AcOH on a steam bath according to the procedure of Weygand and Bergmann (C.A. 42, 4947i) yielded 90% II, m. 190.degree.. II (15 g.) in 1.5 l. H_2O heated on a steam bath, the yellow soln. stirred vigorously with the addn.

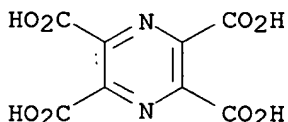
of 7.5 g. KOH, the red liquid treated portionwise in 60-90 min. with 110 g. KMnO_4 , and the last traces of color removed with MeOH, the mixt. filtered and the MnO_2 washed 5 times with hot H_2O , the combined filtrates concd. in vacuo to 200 ml., the concentrate adjusted to pH 6 with 65 ml. HNO_3 (d. 1.35), the soln. boiled and the CO_2 -free liquid treated with 35 g. AgNO_3 in 50 ml. H_2O , the mixt. filtered and the solid washed with warm water, suspended in 100 ml. boiling 2N HCl and filtered immediately, the pptd. AgCl retreated twice with 50 ml. 2N HCl and washed 5 times by suspension in hot water and filtered, the cooled filtrates filtered, and the products dried in vacuo over P_2O_5 gave 13 g. I dihydrate, m. 190.degree., dehydrated over P_2O_5 at 100.degree., and unstable to light. I (4 g.) in 40 ml. abs. MeOH contg. 3.4% dry HCl refluxed 15 hrs., the mixt. evapd. in vacuo and the residue dild. with 40 ml. H_2O , the soln. neutralized with solid Na_2CO_3 , satd. with NaCl and extd. 10 times with 20 ml. EtOAc, the dried (MgSO_4) ext. evapd. in vacuo, and the residue recrystd. (alc.) gave 2 g. tri-Me ester, m. 80.5.degree., also prepd. by refluxing 7.5 g. Ag salt of I and 15 ml. MeI in 35 ml. abs. MeOH and by esterifying I with CH_2N_2 in Et $_2\text{O}$. Following preliminary expts., 5.0 g. I dihydrate refluxed 72 hrs. in 250 ml. H_2O , the soln. kept overnight at room temp., the mixt. slowly warmed to 70-5.degree. on a steam bath and cooled to 35.degree., the coarse ppt. filtered off and washed with water, the ppt. suspended in 5-7 ml. hot H_2O , the cooled suspension filtered and the residue washed with 10 ml. cold H_2O , the product taken up in 10 ml. warm 0.5N NH_4OH and the decolorized soln. (Norite) filtered, the residue washed with 5 ml. H_2O and the filtrate and washings acidified to pH 1.0 with 0.5N HCl, filtered, and the water-washed ppt. dried over P_2O_5 in vacuo gave 0.4 g. III, m. 253.degree. (sealed capillary), subliming at 270.degree.. The filtrate evapd. in vacuo to 20-30 ml. and the warm concd. soln. refrigerated, filtered, and the product washed with ice-cold water gave 3.0 g. IV dihydrate, m. 224-5.degree.. The dihydrate (2 g.) in 50 ml. warm H_2O neutralized and treated with aq. AgNO_3 , filtered and the residue washed with hot water and a small amt. of alc., the product dried to constant wt. in vacuo over P_2O_5 , refluxed 30 hrs. with 10 mole MeI and 20 ml. MeOH, filtered and the red residue washed with EtOAc, the filtrates evapd. in vacuo, and the black residue (1 g.) distd. at 160-80.degree./3-4 mm. gave 0.8 g. 2,6-dicarbomethoxypyrazine, m. 119-20.degree., also produced by esterification of IV with CH_2N_2 in Et $_2\text{O}$. Me_2CO (4 moles) and concd. HCl stirred at 0.degree. (ice-NaCl) treated dropwise with 1 mole iso-PrONO, the mixt. distd. in vacuo, and the residue recrystd. (Et $_2\text{O}$ -petr. ether) yielded 70% oximinoacetone (V), m. 64.5-65.degree.. V (17.4 g.) added portionwise to 90 g. $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ and 130 ml. concd. HCl at 0.degree. (ice H_2O), the mixt. treated in succession with 200 ml. distd. H_2O , 115 g. NaOH in 350 ml. H_2O added very slowly, and 60 g. HgCl_2 in 450 ml. H_2O , the mixt. steam distd. and distillate (500-600 ml.) treated with concd. NaOH to give a final concn. of 5% NaOH, extd. 3 times with 125 ml. Et $_2\text{O}$, the ext. washed with 50% KOH, dried over solid KOH, evapd., and the residue distd. yielded 40-42.5% 2,5-dimethylpyrazine (VI), b. 153.5-55.degree.. VI (4 g.), 11 g. p-MeOC $_6$ H $_4$ CHO, and 1 g. ZnCl_2 heated 8 hrs. at 185.degree. in a sealed tube (encased in a steel cover), the cooled product extd. with 200 ml. alc., and the insol. residue (6 g.) recrystd. (HCONMe $_2$) yielded 40% 2,5-bis(p-methoxystyryl)pyrazine (VII), m. 233-4.degree.. VII (4.63 g.) suspended in 500 ml. H_2O contg. 2 g. KOH, the mixt. stirred vigorously, heated on a steam bath with portionwise addn. of 15.9 g. KMnO_4 in 8.5 hrs., filtered and the MnO_2 washed with 50 ml. N NaOH, the filtrate acidified with 120 ml. 2N HNO_3 to pH 2, the ppt. refluxed 2 hrs. with 100 ml. abs. MeOH satd. with dry HCl, the cooled soln. filtered, and the cryst. product (1.61 g.) recrystd. (80 ml. MeOH)

gave 1.42 g. 2,5-dicarbomethoxypyrazine, m. 169-70.degree..

L7 ANSWER 39 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1958:55087 CAPLUS
DN 52:55087
OREF 52:9869a-b
TI Chromatographic identification of pyrazine bases
AU Dietrich, P.; Mercier, D.
CS Inst. biol. phys.-chim., Paris
SO Journal of Chromatography (1958), 1, 67-9
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA French/English
IT **23046-95-9**, 2,3,5-Pyrazinetricarboxylic acid **43193-60-8**,
2,3,5,6-Pyrazinetetracarboxylic acid
(identification of)
RN 23046-95-9 CAPLUS
CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



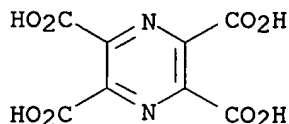
RN 43193-60-8 CAPLUS
CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB Mono-, di-, tri-, and tetramethylpyrazines were sepd. from each other by gas-liquid chromatography on a dinonyl phthalate column at 120.degree. with N as the mobile phase. Sepn. of 2,3-, 2,5-, and 2,6-dimethylpyrazines by this procedure was unsatisfactory, but these compds. can be sepd. by oxidation with 4% KMnO4 for 5-6 hrs. at 80-100.degree. and chromatography of the resulting crude acids on Whatman No. 1 paper for 15 hrs., by the ascending method, with BuOH-HCO2H-H2O (4:1:1) as solvent and 0.5% FeSO4 spray to view the spots. The pyrazinecarboxylic acids showed the following Rf values and coloration with FeSO4, resp.: mono, 0.64, red-yellow; 2,3-di, 0.49, red-Bordeaux; 2,5-di, 0.42, violet; 2,6-di, 0.71, red-violet; tri, 0.57, red-violet; tetra, 0.31, violet.

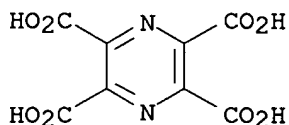
L7 ANSWER 40 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1957:66643 CAPLUS
DN 51:66643
OREF 51:12104e-i,12105a-b
TI Pyrazine derivatives
AU Mager, H. I. X.; Berends, W.
CS Technol. Univ., Delft, Neth.

SO Rec. trav. chim. (1957), 76, 28-34
 DT Journal
 LA Unavailable
 IT **43193-60-8**, 2,3,5,6-Pyrazinetetracarboxylic acid
 (prepn. of)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB Interest in the physiol. effects of pyrazinecarboxylic acids aroused by the isolation of dipicolinic acid from *Bacillus subtilis* and *B. megatherium* (cf. Powell and Strange, C.A. 47, 7592b) led to studies of the prepn. and reduction of pyrazinetetracarboxylic acid (I). Finely powd. o-C₆H₄(NH₂)₂ (54 g.) in 83.3 ml. concd. HCl and 2.5 l. distd. H₂O stirred with 400 g. FeCl₃ in 750 ml. H₂O, the mixt. kept overnight at room temp., filtered, the residue washed with cold. dil. 0.3N HCl taken up in 2.5 l. hot H₂O, the soln. treated with concd. KOH, and the product filtered off, washed with H₂O, and dried at 100-10.degree. gave 26.5 g. 2,3-diaminophenazine (II). The alk. filtrate heated, acidified to pH 4.5 with glacial AcOH, the cooled soln. filtered, and the residue washed with H₂O and dried at 100-10.degree. yielded 26 g. 2-amino-3-hydroxyphenazine (III). KOH (5 g.), 7.5 g. II or III, and 1.5 l. H₂O refluxed 4 hrs. with stirring and portionwise (2-5 g.) addn. of 70 g. KMnO₄, filtered, the residue extd. repeatedly with boiling H₂O, the combined filtrate and extns. concd. in vacuo to 200-50 ml., the concentrate acidified to pH 4-5 with 20 ml. HNO₃, boiled to expel the CO₂, the soln. treated with 125 ml. 10% AgNO₃, filtered, the washed salt suspended in 25-50 ml. boiling 2N HCl, filtered, the colorless filtrate treated with 1-2 g. C, filtered, the light-yellow filtrate evapd. in vacuo, and the residue crystd. from Me₂CO-C₆H₆ yielded 6.8 g. I, m. 205.degree. (decompn.); tetra-Et ester (IIIa), m. 105.degree. (cf. Chattaway and Humphrey, C.A. 23, 3472). IIIa (3 g.) in 100 ml. 96% EtOH reduced 8 hrs. at 100.degree./100 atm. in the presence of 6 g. 5% Pt-Al₂O₃, filtered, the residue washed with 96% alc., and the filtrate evapd. in vacuo gave 2.8 g. 2,3,5,6-tetracarbethoxy-1,4-dihydropyrazine (IV), m. 127.0-7.5.degree., contg. 2 active H atoms, 4 EtO groups (by sapon. and EtO detns.), λ . 277, 375 m. μ . (log ϵ 3.95, 3.80), ν . 3420 cm.⁻¹ (in CCl₄), converted to IIIa by 48 hrs. treatment with 30% H₂O in 96% alc. at room temp. The formation of the highly stable IV was attributed to the presence of 2, probably mutually independent, mesomeric systems, an opinion supported by the resistance of pyromellitic acid (V) and its esters to reduction [cf. von Bayer, Ann. 166, 337 (1873)]. V (5 g.) in 100 ml. abs. MeOH satd. 1 hr. with dry HCl, the mixt. cooled to -5.degree., filtered, and the washed ppt. dried and recrystd. from dil. alc. gave 5.5 g. tetra-Me pyromellitate (Va), m. 146.degree.. Va (5 g.) in 100 ml. 96% alc. hydrogenated 8 hrs. at 150.degree./200 atm. in the presence of 5-6 g. Raney Ni, filtered, the filtrate evapd. in vacuo, and the residue crystd. from dil. alc. gave 4.5 g. 1,2,4,5-tetracarbomethoxycyclohexane, m. 125.degree. [differs from the m.p. given by Sieglitz and Horn (C.A. 47, 4907a)]. Va is resistant to reduction with Pt-Al₂O₃ or PtO₂ at 100.degree./150 atm.

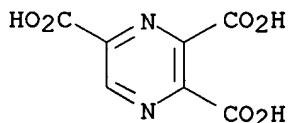
L7 ANSWER 41 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1956:4819 CAPLUS
 DN 50:4819
 OREF 50:1037b-i
 TI Nitration of phenazine
 AU Maffei, Silvio; Aymon, Marco
 CS Univ. Pavia, Italy
 SO Gazzetta Chimica Italiana (1954), 84, 667-73
 CODEN: GCITA9; ISSN: 0016-5603
 DT Journal
 LA Unavailable
 IT **43193-60-8**, Pyrazinetetracarboxylic acid
 (prepn. of)
 RN 43193-60-8 CAPLUS
 CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB The uncertain results of the work of Claus [Ber. 8, 39 (1875)], Kehrman and Havas (C.A. 7, 1503), and Albert and Duewell (C.A. 41, 4498c) induced M. and A. to take up the subject and attempt to obtain definite products by definite reactions. HNO₃-AcOH mixts. were found to be unsuitable, but gradual nitration was effected in H₂SO₄-fuming HNO₃ (d. 1.48) (I) or KNO₃ at 70-90.degree.. With stoichiometric amts. of phenazine (II) and nitrating agents, or with not too large an excess of agent, mononitration (never complete) takes place. II (9 g.) in 180 cc. H₂SO₄.H₂O (III) and 4.5 cc. HNO₃ (d. 1.48), heated 8 hrs. at 70.degree. (the mixt. is first red but fades), poured into ice-water, made alk. with NH₄OH, and the ppt. washed with H₂O, and purified by MeOH, give 0.7 g. 1-nitrophenazine (IV), yellow, m. 195.degree. (cf. Preston, et al., C.A. 37, 642.6). It can also be purified by extg. a C₆H₆ soln. of the crude IV by 15% HCl, and evapg. the C₆H₆ soln. With a stoichiometric wt. of I or KNO₃, the yields of IV are smaller. Reduction of IV in 50% AcOH by Zn, the soln. made alk. with NH₄OH, and sublimation of the product, gives 1-aminophenazine, m. 175.degree.. I (45 cc.), added during 15 min. to 9 g. II in 180 cc. III at 75.degree., kept 8 hrs. at 75.degree., poured into ice-water, made alk. with NH₄OH, and the orange-yellow ppt. washed, gives 10.7 g. of a mixt. (V) of NO₂ derivs. contg. 20.88% N. This does not vary for preps. in the range of 70-90.degree.. V (1.08 g.) and 50 cc. concd. H₂SO₄, heated at 80.degree., poured into 500 cc. H₂O, the ppt. washed and suspended in 100 cc. H₂O, made alk. with 5 cc. 10% NaOH, 7 g. KMnO₄ added slowly to the suspension on a steam bath, the soln. concd. to 60 cc., 20 cc. Ba(OH)₂ water added, the ppt. taken up in a min. of boiling HCl, and the soln. let stand, ppts. pyrazinetetracarboxylic acid. V in C₆H₆, chromatographed on SiO₂ gel in darkness, eluted with C₆H₆, and the soln. evapd., gives a dinitro deriv. (VI), m. 343.degree.. From the green-yellow zone of the column is recovered, by soln. of the SiO₂ in NaOH, a dinitro deriv. (VII), m. 273.degree.. VI (0.54 g.) suspended in 150 cc. 90% AcOH, reduced at the b.p. by 1.2 g. Zn (added during 90 min.), the filtered soln. dild. with 150 cc. H₂O, the filtered soln. treated with NH₄OH until pptn. is

complete, the ppt. taken up in 100 cc. 2% HCl, boiled 2 hrs., clarified, made alk. with NH₄OH, and the ppt. purified by EtOH, gives 0.35 g. of 1,6-diaminophenazine (VIII), red, m. 245.degree.. VII (0.54 g.), reduced in the same way, gives 1,9-diaminophenazine (IX), violet-red, m. 264-5.degree.. VIII (0.21 g.) and 1 cc. 30% H₃PO₄ heated in a sealed tube 45 hrs. at 170.degree., taken up in H₂O, made alk. with NaOH, boiled, the filtered soln. acidified with HCl, extd. with Et₂O, the ext. washed, treated with dil. NaOH, and the violet-red alk. soln. acidified with HCl, ppt. 0.1 g. of a yellow compd. (X), m. 270-1.degree.. X (0.05 g.) in Et₂O and CH₂N₂ [from 1.5 g. (MeNH)₂C:NOH], let stand 48 hrs., extd. with HCl (1:1), and the ext. made alk. with KOH, ppts. 1,6-dimethoxyphenazine, m. 246.degree. (from EtOH) (cf. Pachter and Kloetzel, C.A. 46, 10183b). By the same procedure, 0.21 g. IX gives 0.09 g. 1,9-dimethoxyphenazine, m. 259.degree. (cf. Serebryanyi and Chernetskii, C.A. 46, 6654g). 2,4-Dinitrophenazine (2.5 g.), heated in a CO₂ current slowly to 360.degree. (nitrous vapors are evolved) and held 2 hrs. at 360.degree., extd. with hot C₆H₆, the ext. extd. with concd. HCl, the ext. dild., and the ppt. (0.32 g.) purified by glacial AcOH, gives 2-nitrophenazine, yellow, m. 226.degree..

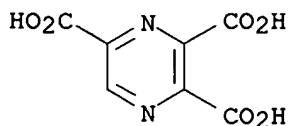
L7 ANSWER 42 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1954:25072 CAPLUS
 DN 48:25072
 OREF 48:4553b-h
 TI Synthetic antituberculous agents. II. Some thienylquinoxalines
 AU Musante, Carlo; Parrini, Valerio
 CS Univ. Florence, Italy
 SO Sperimentale, Sezione di Chimica Biologica (1952), 3, 140-53
 CODEN: SSCBAX; ISSN: 0371-2869
 DT Journal
 LA Unavailable
 IT **23046-95-9**, 2,3,5-Pyrazinetricarboxylic acid
 (prepn. of)
 RN 23046-95-9 CAPLUS
 CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.
 AB cf. C.A. 45, 5879f. 2-Thienylglyoxal (I), m. 87.degree., was prepd. according to Kipnis and Ornfelt (C.A. 41, 1661c). Short refluxing of 1 g. I in EtOH with 0.46 g. NH₂OH.HCl and 0.42 g. Na₂CO₃ in H₂O gives I monoxime, m. 109-11.degree.. Refluxing 1.6 g. I in EtOH with 2.1 g. NH₂OH.HCl and 4.08 g. NaOAc in H₂O gives 2-thienylglyoxime, m. 151.degree.. Refluxing 1.6 g. I in EtOH with 1.1 g. H₂NNHCONH₂.HCl and 1.4 g. NaOAc in H₂O gives I semicarbazone (II), m. 216-17.degree.. Heating 0.5 g. II with K₂CO₃ in H₂O and adding HCl gives 5-(2-thienyl)-3-hydroxy-1,2,4-triazine, m. 273-5.degree. (decompn.). Refluxing 1.6 g. I with 0.9 g. H₂NNHCSNH₂ in H₂O-EtOH gives I thiosemicarbazone, which, heated with K₂CO₃ in H₂O, gives 3-mercapto-5-(2-thienyl)-1,2,4-triazine, m. 238.degree.. I gives with 30%

NH₃ in EtOH yellow crystals, m. 215.degree., presumably 2-C₄H₃SC:N.C(OH):C(C₄H₃S-2).N:CH. I (1 g.) gives with 0.1 g. KCN in 50% EtOH red 2-C₄H₃SCOH(OH)COCOC₄H₃S-2, m. 228.degree. (from AcOH). Refluxing 5 g. I and 3.3 .omicron.-C₆H₄(NH₂)₂ in EtOH gives 3-(2-thienyl)quinoxaline (III), m. 118.degree. (from EtOH). I and 3,4-(H₂N)₂C₆H₃Me give the 7-Me deriv. of III, m. 110-12.degree.; 7-Cl, m. 119-21.degree., the 7-carboxylic acid, m. 288-90.degree.. I and 1,2-C₁₀H₆(NH₂)₂ give 2-(2-thienyl)benzo[h]quinoxaline (IIIA), m. 213-15.degree.. I and 2,4,5-HO(H₂N)₂C₆H₂CO₂H in EtOH give yellow 3-(2-thienyl)-6-hydroxy-7-quinoxalinecarboxylic acid, m. 293.degree. (decompn.). Adding 1.7 g. III gradually to 20 cc. H₂SO₄ and 20 cc. HNO₃ at a temp. below 15.degree. gives a di-O₂N deriv. (IV), m. 125.degree., oxidized by refluxing with KMnO₄ in H₂O to 2,5,6-piperazinetricarboxylic acid, m. 190-1.degree.. Treating 1.3 g. I with 15 cc. HNO₃ and 45 cc. H₂SO₄ gives 3-(2-thienyl)mononitroquinoxaline, m. 227.degree., in which the position of the NO₂ in the C₆H₄ ring is uncertain. Refluxing 3 g. I and 2.5 2,3-(H₂N)₂C₆H₃NO₂ in EtOH gives yellow 3-(2-thienyl)-8-nitroquinoxaline, m. 170-1.degree.; 7-O₂N analog, m. 245-7.degree.. I and 1,5,2,3-(O₂N)₂C₆H₂(NH₂)₂ give 3-(2-thienyl)-6,8-dinitroquinoxaline, yellow crystals, m. 252.degree. (from AcOH). Adding 1 g. 3-(2-thienyl)-7-methylquinoxaline to 10 cc. H₂SO₄ and 10 cc. HNO₃ at 0.degree. gives the yellow tri-O₂N deriv., m. 185.degree., with two NO₂ groups at the 3,4-positions of the thienyl group and 1 in the benzene ring in an uncertain position. IIIA (0.5 g.) with 15 cc. H₂SO₄ and 15 cc. HNO₃ at 10-15.degree. gives a yellow 2-(2-thienyl) x,6-dinitrobenzo[h]quinoxaline, m. 288.degree., with one NO₂ in each of the benzene rings. Nitration of .omicron.-AcOC₆H₄NHAc gives a mixt. of the 3-and 5-nitro derivs., 5 g. of which, added to 20 g. SnCl₂ in 80 cc. HCl contg. some metallic Sn, gives after removal of the Sn with H₂S, crystals of 2,3-(H₂N)₂C₆H₃OH-HCl (V), m. 275.degree.. V heated briefly with phenanthrenequinone in AcOH gives 14-hydroxy dibenzo[a,c]phenazine, m. 260.degree.. Heating 1 g. I in EtOH with 1.23 g. V in H₂O gives 3-(2-thienyl)-5-hydroxyquinoxaline.

L7 ANSWER 43 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1950:40651 CAPLUS
 DN 44:40651
 OREF 44:7772c-h
 TI The reductone series
 AU v. Euler, Hans; Hasselquist, Hans
 CS Stockholm Univ.
 SO Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1950), 69, 402-9
 CODEN: RTCPB4; ISSN: 0370-7539
 DT Journal
 LA English
 IT 23046-95-9, 2,3,5-Pyrazinetricarboxylic acid (prepn. of)
 RN 23046-95-9 CAPLUS
 CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB New reductone esters are described, including triose-reductone monoacetate (I), m. 99-101.degree., from the Na salt of triose-reductone (II) in C₆H₆ with AcCl; it is sol. in alc., Me₂CO, C₆H₆, less sol. in H₂O. FeCl₃ added to an alc. soln. gives a brown-red color. Quant. titration with Tillman reagent (alk. at 20.degree.) shows the presence of one enediol group per mol. of sapond. acetate. CH₂N₂ liberates N and methylation of the free OH is finished in ether soln. to give a colorless oil, sol. in alc., ether, Me₂CO, and CHCl₃. In alc. soln. with o-C₆H₄(NH₂)₂ (III) I gives a product m. 132-3.degree., analogous to the quinoxaline deriv. from triose-reductone monochloroacetate (IV). The structure of IV, made by known means from ClCH₂COCl and II, is studied further. IV with III gives a yellow quinoxaline deriv. sol. in CHCl₃ and HOAc, forms in HCl the HCl salt, which with EtOAc gives dark green prisms, m. 220.degree.. Oxidation with KMnO₄ and isolation of the Ag salt of pyrazinetricarboxylic acid indicates that III reacts with groups 2 and 3 of the reductone and esterification with ClCH₂CO₂H takes place at enediol group 1. II and p-H₂NC₆H₄COOH (1:1) in 30% HOAc heated with H₂O give a yellow compd., p-HO₂CC₆H₄N:CHC(OH):CHOH, m. 264.degree., showing on Tillman titration 1 enediol group, in contrast to the work of Forrest and Walker (C.A. 42, 4176f). II (230 mg.) with 960 mg. 5,2-H₂N(HO)C₆H₃CO₂H.HCl gives 60 mg. of the reductone-5-aminosalicylic compd., darkens 234.degree., decomp. at higher temp., analyzed by alkalimetric and reductometric titration. II (440 mg.) in a few ml. H₂O with 765 mg. 4,2-H₂N(HO)C₆H₃CO₂H in 150 ml. H₂O gives 780 mg. condensation product (from Me₂CO), m. 235-7.degree. (decompn.).

L7 ANSWER 44 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1949:46462 CAPLUS

DN 43:46462

OREF 43:8394b-f

TI Syntheses in the pyrazine series: the proof of the structure and the reactions of 2,6-dibromopyrazine

AU Schaaf, Kurt H.; Spoerri, Paul E.

SO Journal of the American Chemical Society (1949), 71, 2043-7

CODEN: JACSAT; ISSN: 0002-7863

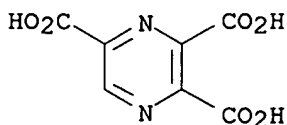
DT Journal

LA Unavailable

IT 23046-95-9, 2,3,5-Pyrazinetricarboxylic acid
(prepn. of)

RN 23046-95-9 CAPLUS

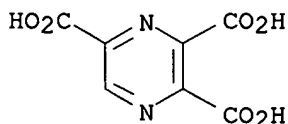
CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



AB The dibromopyrazine of Erickson and Spoerri (C.A. 40, 2835.3) is shown to be the 2,6-deriv. (I). I (1.19 g.), 1.34 g. CuCN, and 0.07 g. CuSO₄, gradually heated (25 min.) to 143-5.degree. give 8.85% 2,6-dicyanopyrazine (II), m. 162-3.degree. (m.ps. cor.), and 13.5% 2-bromo-6-cyanopyrazine, m. 72-3.degree.. II (0.13 g.) and 0.52 ml. concd. H₂SO₄, heated 2 hrs. at 70.degree. and 1 hr. at 115-17.degree., give 0.12 g. 2,6-

pyrazinedicarboxamide, does not m. at 355.degree.. II (0.37 g.) and 0.47 g. NaOH in 9.4 ml. H₂O, heated 2 hrs. on the steam bath (NH₃ removed by a stream of N), gives 67% 2,6-pyrazinedicarboxylic acid (III), pale yellow, m. 218.degree. (decompn.). Details are given of the oxidation of 2-methylquinoxaline by alk. KMnO₄ to 2,3,6-pyrazinetricarboxylic acid (25.2%); decarboxylation gives a mixt. of III and the 2,5-isomer. The bromopyrazine of E. and S. (15.9 g.) and 15 g. POBr₃, added to a mixt. of 13.6 g. PBr₃ and 8 g. Br and heated 1 hr. at 105-10.degree., give 16.7% I. I (1.19 g.) in 3.6 ml. MeOH, added to 0.59 g. Na in 11.8 ml. MeOH and refluxed 72 hrs., gives 0.5 g. 2,6-dimethoxypyrazine, b₁₀ 75.degree., m. 31-1.5.degree. [a hydrate(?) m. 47.degree.]; the 2,6-di-EtO homolog, b₅ 68.degree., m. 27-7.5.degree.. Me₂CHONa and I in iso-PrOH, refluxed 1.5 hrs., give 63.3% of the 2,6-bis(1-methylethoxy) compd., b₁₀ 105-6.degree.. I (1.19 g.) in 4.6 ml. EtOH and 0.91 g. NaOH in 4.6 ml. H₂O refluxed 5 hrs. give 0.445 g. 6-bromo-2-hydroxypyrazine, m. 209.degree. (decompn., sealed tube); Bz deriv., m. 67-8.degree. (98% of crude product). Benzoxy pyrazine, m. 73-4.degree. (2.65 g. from 2.4 g. hydroxypyrazine). I (1.19 g.) and 40 ml. 28.5% NH₄OH, heated 21 hrs. at 195-200.degree., give 81.8% 2,6-diaminopyrazine (IV), pale yellow, m. 136.degree. (decompn.), fairly sensitive to oxidation. IV (0.44 g.) in 4.4 ml. C₅H₅N, treated with 2.06 g. p-AcNHC₆H₄SO₂Cl (in a N atm.), stirred 16 hrs. at room temp., and kept 20 hrs. at 2.degree., gives 1.9 g. crude 2,6-bis(N₄-acetylsulfanilamido)pyrazine, m. 220-1.degree., analyzed as the acetate, yellow-orange, m. 257.degree. (decompn.); hydrolysis with 6 N HCl gives 42.9% 2,6-disulfanilamidopyrazine, m. 252.5.degree. (decompn.).

L7 ANSWER 45 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1949:22520 CAPLUS
 DN 43:22520
 OREF 43:4227d-f
 TI Reductone. III
 AU v. Euler, Hans; Hasselquist, Hans; Loov, Uno
 SO Arkiv Kemi, Mineral. Geol. (1948), 26A(No. 17), 12 pp.
 DT Journal
 LA German
 IT **23046-95-9**, 2,3,5-Pyrazinetricarboxylic acid
 (prepn. of)
 RN 23046-95-9 CAPLUS
 CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



AB Dissolve 750 mg. l-leucine in a little water by dropwise addn. of 4 N HCl, add 500 mg. reductone, heat on the steam bath 5 min., allow to stand 3 hrs., filter, and recrystallize the (dihydroxypropylidene)leucine, m. 176.0-6.5.degree., from alc. Consumption of Tillman reagent shows that the double bond is still present. The trisemicarbazone of oxidized reductone (mesoxalaldehyde) m. 249.5.degree. (decompn.). Heat 0.5 g. reductone in 2 cc. water with 0.75 g. aniline in 5 cc. of 4 N HCl for 5 min. on a boiling water bath, cool, and filter the reductone-anilide-HCl, m. 260.degree.. Addn. of NaOAc ppts. the free anilide base, m.

64.degree.. The p-nitroanilide is obtained in the same manner as red crystals, yellow on recrystn. from boiling glacial AcOH, m. 235-7.degree.. 2,3,5-Pyrazinetricarboxylic acid was isolated from the oxidation of the quinoxaline deriv. of oxidized reductone with KMnO4. The quinoxaline deriv. (purified by sublimation) was identified as the expected 2-quinoxalinecarboxaldehyde by the m.p. of its phenylhydrazone.

L7 ANSWER 46 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1946:27766 CAPLUS

DN 40:27766

OREF 40:5458a-b

TI Pyrazinetetracarboxylic acid

IN Ramsey, Albert R. J.

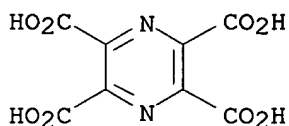
PA Mead Johnson & Co.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 565778		19441128	GB	
IT	43193-60-8 , Pyrazinetetracarboxylic acid (prepn. of)				
RN	43193-60-8	CAPLUS			
CN	Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)				



AB Phenazine, phenazine oxide, or other compd. having the phenazine ring structure are oxidized with KMnO4 or NaMnO4 to form the K or the Na salt of pyrazinetetracarboxylic acid. These are treated with hot 20% HCl to liberate the acid.

L7 ANSWER 47 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1946:25760 CAPLUS

DN 40:25760

OREF 40:5074a-c

TI Pyrazine from pyrazinecarboxylic acids

IN Ramsey, Albert R. J.

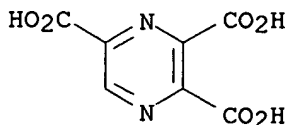
PA Mead Johnson & Co.

DT Patent

LA Unavailable

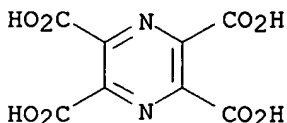
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 560965		19440428	GB	
IT	23046-95-9 , Pyrazinetricarboxylic acid 43193-60-8 , Pyrazinetetracarboxylic acid (decarboxylation of)				
RN	23046-95-9	CAPLUS			
CN	Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)				



RN 43193-60-8 CAPLUS

CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



AB Pyrazine, which is an intermediate in the synthesis of 2-sulfanilamidopyrazine, is produced from pyrazinecarboxylic acids by suspending the acids in an inert, high-boiling liquid, e.g., di-Bu phthalate or di-Et phthalate, and heating the suspension until decarboxylation occurs and the pyrazine distils from the reaction mixt. Anhyd. pyrazinemonocarboxylic acid was suspended in di-Bu phthalate. The temp. of the mixt. was raised to 190.degree. and held there for 1 hr., then gradually raised to 215.degree.. Pyrazine distd. from the reaction mixt. as a colorless liquid which crystd. immediately. The yield of pyrazine was 90% of theory. A similar process was followed with 2,3-pyrazinedicarboxylic acid, with 2,3,5-pyrazinetricarboxylic acid, and with pyrazinetetracarboxylic acid.

L7 ANSWER 48 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1929:29324 CAPLUS

DN 23:29324

OREF 23:3472e-i,3473a-c

TI Action of o-phenylenediamines upon dihydroxytartaric acid

AU Chattaway, Frederick D.; Humphrey, William G.

SO J Chem. Soc. (1929) 645-51

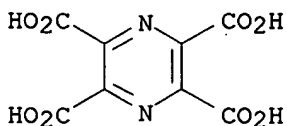
DT Journal

LA Unavailable

IT **43193-60-8**, 2,3,5,6-Pyrazinetetracarboxylic acid
(and derivs.)

RN 43193-60-8 CAPLUS

CN Pyrazinetetracarboxylic acid (6CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB When Na dihydroxytartrate is heated with aq. o-C₆H₄(NH₂)₂, 2 mols of the diamine react with 1 mol. only of the salt, forming quinoxaline-2,3-

dicarboxy-o-phenylenediamide (I); Na dihydroxytartrate is only very sparingly sol. in H₂O and any excess above 1 mol. remains in suspension unchanged. When the filtered alk. soln. is partly neutralized with HCl, I seps. as a colorless cryst. powder, stable in neutral soln. and dissolving readily in cold dil. aq. alkali, from which it is reprecipitated on addition of a deficiency of acid. It dissolves in hot dil. HCl (1:50), but on cooling, the o-phenylenediamine salt, (II) of quinoxaline-2,3-dicarboxylic acid (III) seps; whereas, if it is dissolved in hot moderately concd. HCl (1:1), III seps. on cooling o-phenylenediamine-HCl remaining in soln. The II and III may consequently be obtained directly from the original yellow condensation soln., the former by making the soln. weakly acid with HCl, and the latter by saturating it with gaseous HCl. Attempts to acetylate or benzoylate I by the usual methods also cause decomposition, with formation of the di-Ac or the di-Bz deriv. of o-C₆H₄(NH₂)₂. Heated with Ac₂O, III yields the anhydride, while dry NH₃ on this anhydride in C₆H₄ suspensions gives the NH₄ salt of 3-carbamylquinoxaline-2-carboxylic acid (IV), from which the acid itself may be obtained on acidification. This amic acid is converted into the corresponding imide (V) on being heated above its m. p., and into the Ac deriv. of the imide on boiling with Ac₂O. On being heated above its m. p., III decomposes, evolving CO₂ and yielding a small quantity (10%) of quinoxaline; better yields (30%) of this base are obtained by heating the NH₄ salt of the acid. In common with other N bases, quinoxaline forms a stable, well-crystd. monotetrachloroiodide. Similarly, Na chloroquinoxaline-2,3-dicarboxy-p-chloro-o-phenylenediamide, from which the p-chloro-o-phenylenediamine salt of 6-chloroquinoxaline-2,3-dicarboxylic acid, and the free acid (VI) are obtained by heating with dil. and with concd. HCl, resp. p-Bromo-o-phenylenediamine gives the corresponding Br deriv. These halogen-substituted derivs. are considerably less sol. than the unsubstituted compds., and are therefore more readily prepared and purified; otherwise their reactions are analogous. The following compds. were prepared and characterized: I, m. 184.degree. (decomposition). II, lemon-yellow, m. 186.degree. (decomposition). III, prisms containing 2 mols. H₂O of crystallization, m. 190.degree. (decomposition after loss of H₂O at 110.degree.); Et ester, C₁₄H₁₄O₄N₂, prisms, m. 83.degree.; NH₄ salt, m. 220-30.degree.; anhydride, pale yellow prisms decompose and char at 250-60.degree.. IV, m. 190-5.degree. (decomposition). V, pale yellow, m. about 260.degree. (decomposition); Ac deriv., leaflets, m. about 220.degree. (decomposition). Quinoxaline mono-tetrachloroiodide, C₆H₄N₂. ICl₄, m. 125-30.degree. (decomposition). 6-Chloroquinoxaline-2,3-dicarboxy-p-chloro-o-phenylenediamide, C₁₆H₈O₂N₄Cl₂, m. 207.degree. (decomposition) (p-chloro-o-phenylenediamine salt, C₁₆H₁₈O₄N₄Cl₃, m. 205.degree. (decomposition)); 6-bromoquinoxaline-2,3-dicarboxy-p-bromo-o-phenylenediamide, m. 198.degree. (decomposition) (p-bromo-o-phenylenediamine salt, m. 199.degree. (decomposition)). VI, m. 175.degree. (decomposition) (anhydride, m. 235-40.degree. (decomposition), Et H ester, m. 159.degree.; di-Et ester, m. 60.degree.; NH₄ salt, m. 215-25.degree. (decomposition)). 6-Chloroquinoxaline, m. 60.degree., 6-Bromoquinoxaline-2,3-dicarboxylic acid, m. 172.degree. (decomposition) (anhydride, m. 235-45.degree. (decomposition), Et H ester, m. 161.degree., di-Et ester, m. 69.degree., NH₄ salt, m. 235-40.degree. (decomposition)). 6-Bromoquinoxaline, m. 56.degree.. Pyrazinetetracarboxylic acid (by oxidation of the anhydride of III), m. 205.degree. (decomposition), di-K di-H salt is crystalline, tetra-Et ester, m. 104.degree..

L7 ANSWER 49 OF 49 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1915:15638 CAPLUS
 DN 9:15638
 OREF 9:2517h-i,2518a-g

TI Condensation of acid chlorides with the ethyl ester of (a) cyanoacetic acid, (b) malonic acid, and (c) acetoacetic acid. II. Experiments on ethyl .gamma.-ethoxyacetoacetate.

AU Bradshaw, John; Stephen, Henry; Weizmann, Charles

CS Manchester

SO Journal of the Chemical Society, Abstracts (1915), 107, 803-13
CODEN: JCSAAZ; ISSN: 0590-9791

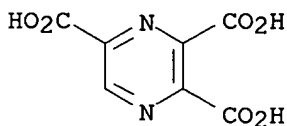
DT Journal

LA Unavailable

IT 23046-95-9, 2,3,5-Pyrazinetricarboxylic acid
(and salts)

RN 23046-95-9 CAPLUS

CN Pyrazinetricarboxylic acid (6CI, 8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB cf. C. A. 8, 904. NaCH(CO₂Et)₂ reacting with o-C₆H₄(CO)₂NHCH₂COCl gave rise to ethyl bisphthaliminoacetylmalonate (A), [o-C₆H₄(CO)₂NCH₂CO]₂C(CO₂Et)₂, needles, m. 176.degree.. 1-Phenyl-3-phthaliminomethyl-5-pyrazolone, o-C₆H₄(CO)₂NCH₂.C:N.NPh.CO.CH₂, microcrystals, m. 192.degree. (decompn.), prepd. from PhNHNH₂ and Et phthaliminoacetoacetate, when hydrolyzed with alc. KOH yielded 1-phenyl-3-phthalaminomethyl-5-pyrazolone (B), yellow powder, m. 164.degree. (decompn.). Et phthaliminoacetylmalonate (C) and PhNHNH₂ condensed to form ethyl 1-phenyl-3-phthaliminomethyl-5-pyrazolone-4-carboxylate (D), o-C₆H₄(CO)₂NHCH₂C:N.NPh.CO.CHCO₂Et, yellow powder, m. 215.degree., from which the corresponding (impure) phthalamino deriv. was obtained. On fusion, the latter evolved CO₂ and yielded (B). By warming an excess of PhNHNH₂ with (A) in 50% AcOH, a mixt. of (D) and phthaliminoacetylphenylhydrazide (E), o-C₆H₄(CO)₂NCH₂CONHNHPh, needles from MeOH, m. 199.degree., was obtained. (E) was readily formed by condensing o-C₆H₄(CO)₂NCH₂COCl with PhNHNH₂. By treating (C) in KOH with NaNO₂ and subsequently adding dil. H₂SO₄, .alpha.-hydroxyimino-.gamma.-phthaliminoacetone, o-C₆H₄(CO)₂NCH₂CO.CH:NOH, prisms from PhH, m. 156.degree. (decompn.), was obtained. When Et₂NH was gradually added to an ice-cold mixt. of 2 mols. EtOCH₂COCH₂CO₂Et and 1 mol. AcH, ethyl ethylidenebis-.gamma.-ethoxyacetoacetate, needles (from MeOH), m. 96.degree., was formed, which when heated for 20 hrs. with aq. H₂SO₄, or preferably when dissolved in an equal vol. of PhH and satd. with HCl, yielded 1-ethoxy-4-methyl-2-ethoxymethylcyclohexen-6-one, b14 157.degree., possessing a terpene-like odor; semicarbazone, plates, m. 232.degree. (decompn.). EtOCH₂COCHMeCO₂Et (F), b16 115.degree., and EtOCH₂COCHEtCO₂Et (G), b15 124.degree. (cf. Johnson, J. Chem. Soc. 35, 582), were formed by treating 1 mol. EtOCH₂COCHNaCO₂Et in EtOH with 1 mol. of MeI and EtI, resp. Similar reactions led to the formation of ethyl .gamma.-ethoxy-.alpha.-propylacetoacetate, b18 137.degree.; the corresponding .alpha.-isopropylacetoacetate, b18 131.degree., and .alpha.-isobutylacetoacetate, b10 128.degree., MeCH₂COCH₂OEt, b. 146.degree., and EtCH₂COCH₂OEt, b. 167.degree. (cf. B. acte. ehal and Sommelet, Compt. rend. 138, 89), were obtained in poor yield from (F) and

(G), resp., by heating the esters with H₂O in sealed tubes at 210.degree. for 1 hr. The other alkylacetoacetates were hydrolyzed in the same way, "acid hydrolysis" being the principal reaction as shown by the titration of the acid formed during the reaction. EtOCH₂COCl and NH₃ in dry Et₂O yielded EtOCH₂CONH₂, needles from PhH, m. 80-2.degree. (cf. Sommelet, Ann. chim. phys. [8] 9, 493). One mol. of EtOCH₂COCH:NOH reacting with 1 mol. of o-C₆H₄(NH₂)₂ in 2 mols. of glacial AcOH gave rise to 2-ethoxymethylquinoxaline (H), CH:N.C₆H₄.N:CCH₂OEt, b13 144.degree., neutral to litmus in aq. soln.; chloroplatinate, microcrystals, decomp. 250.degree.; picrate, yellow powder, m. 216.degree.. Upon gradual oxidation with alk. KMnO₄, (A) yielded pyrazine-2,5,6-tricarboxylic acid, HO₂CC:C(CO₂H).N:CH.C(CO₂H):N, silky needles, m. 191.degree. (decompn.), isolated as the barium salt. The normal copper salt forms green microcrystals from aq. MeOH.

=> d l8 fbib hitstr abs total

L8 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:777531 CAPLUS

DN 139:292094

TI Preparation of substituted tetracycline compounds for the treatment of bacterial infections and neoplasms

IN Nelson, Mark L.; Ohemeng, Kwasi; Frechette, Roger; Abato, Paul; Assefa, Haregewein; Bandarage, Upul; Berniac, Joel; Bhatia, Beena; Chen, Jackson; Ismail, Mohamed Y.; Kim, Oak A.; Mathews, Jude; McIntyre, Laura; Nihlawi, Mohammed; Pearson, Andre; Reddy, Laxma; Sheahan, Paul; Sizensky, Emmanuelle; Tourigny, Justin; Verma, Atul K.; Viski, Peter; Warchol, Tadeusz

PA Paratek Pharmaceuticals, Inc., USA

SO PCT Int. Appl., 118 pp.

CODEN: PIXXD2

DT Patent

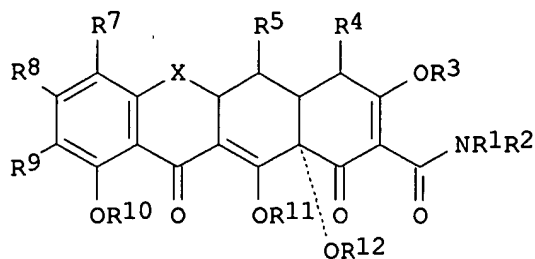
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003079984	A2	20031002	WO 2003-US8324	20030318
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
				US 2002-366915PP	20020321
				US 2002-367045PP	20020321
				US 2002-367048PP	20020321
				US 2002-395468PP	20020712
				US 2003-440305PP	20030114

OS MARPAT 139:292094

GI



I

AB Novel substituted tetracycline compds. of formula I [X = (substituted) CH, S, (substituted) NH, O; R1, R2 = H, alkyl, arylalkyl, aryl, heterocyclic, heteroarom.; R4 = (substituted) NH2, alkyl, aryl, OH, halo, H; R5 = OH, H, SH, alkanoyl, aroyl, alkyl, alkoxy, alkylthio, etc.; R7 = NO2, heterocyclic, alkyl, aminoalkyl, aryl, alkoxy, etc.; R8, R9 = H, OH, halo, SH, nitro, alkyl, aryl, alkoxy, alkylamino, etc.; R3, R10, R11, R12 = H, prodrug moiety] are prepd. These tetracycline compds. can be used to treat numerous tetracycline compd.-responsive states, such as bacterial infections and neoplasms, as well as other known applications for minocycline and tetracycline compds. in general, such as blocking tetracycline efflux and modulation of gene expression. Thus, 7-phenylsancycline was prepd. in 2 steps from sancycline and phenylboronic acid.

L8 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:737741 CAPLUS

DN 139:261323

TI Preparation of aminocarbonyl derivatives as inhibitors of histone deacetylase

IN Van Emelen, Kristof; De Winter, Hans Louis Jos; Dyatkin, Alexey Borisovich; Verdonck, Marc Gustaaf Celine; Meerpoel, Lieven

PA Janssen Pharmaceutica N.V., Belg.

SO PCT Int. Appl., 58 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003076421	A1	20030918	WO 2003-EP2511	20030311
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

US 2002-363799PP 20020313

PATENT FAMILY INFORMATION:

FAN 2003:737586

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003075929	A1	20030918	WO 2003-EP2515	20030311
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

US 2002-363799PP 20020313

FAN 2003:737718

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003076395	A1	20030918	WO 2003-EP2512	20030311
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
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US 2002-363799PP 20020313

WO 2002-EP14074A 20021210

FAN 2003:737723

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003076400	A1	20030918	WO 2003-EP2514	20030311
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
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US 2002-363799PP 20020313

FAN 2003:737724

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003076401	A1	20030918	WO 2003-EP2517	20030311
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,			

UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD,
 RU, TJ, TM
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 CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
 NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG

US 2002-363799PP 20020313
 WO 2002-EP14481A 20021218

FAN 2003:737742

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003076422	A1	20030918	WO 2003-EP2516	20030311
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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US 2002-363799PP 20020313

US 2002-420989PP 20021024

FAN 2003:737750

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003076430	A1	20030918	WO 2003-EP2513	20030311
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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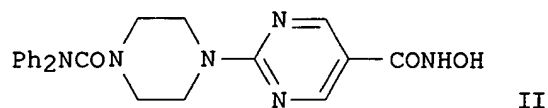
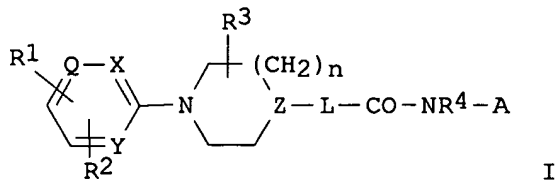
US 2002-363799PP 20020313

FAN 2003:737757

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003076438	A1	20030918	WO 2003-EP2510	20030311
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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US 2002-363799PP 20020313

WO 2002-EP14833A 20021223

OS MARPAT 139:261323
GI

AB The title compds. I [Q, X, Y = N, (un)substituted CH; R1 = (un)substituted CONH2, NHCHO, COalkanediylSH, CONHOH, NHCOC:NHOH or other Zn-chelating group; R2 = H, halogen, OH, amino, NO2, alkyl, alkoxy, CF3, dialkylamino, NHOH, naphthalenylsulfonylpyrazinyl; R3 = H, OH, amino, (un)substituted alkyl, alkoxy, CONH2, CO2H; R4 = H, alkyl, cycloalkyl, hydroxyalkyl, alkoxyalkyl, dialkylaminoalkyl, aryl; L = bond, NH, alkanediylamino; A = (un)substituted Ph, cyclohexyl, heterocyclic, heteroaryl, naphthyl; n = 0-3] were prepd. for use as histone deacetylase inhibitors in the treatment of proliferative diseases. Thus, the carbamoylpiperazinylpyrimidinecarboxamide II was prepd. from piperazine, Et 5-methylsulfonylpyrimidine-2-carboxylate, and Ph2NCOCl in 5 steps. II had pIC50 for inhibition of histone deacetylase of 7.127 and for antiproliferative activity against A2780 cells of 6.114.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:428866 CAPLUS

DN 137:20297

TI Preparation of ortho-substituted and meta-substituted bisaryl compounds as potassium channel blockers

IN Peukert, Stefan; Brendel, Joachim; Hemmerle, Horst; Kleemann, Heinz-Werner

PA Aventis Pharma Deutschland GmbH, Germany

SO PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002044137	A1	20020606	WO 2001-EP13294	20011117
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

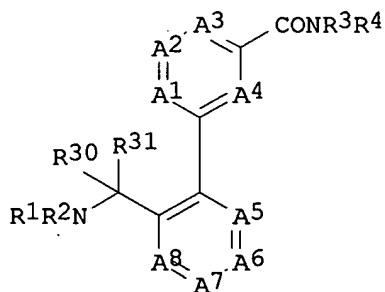
Patel

<11/18/2003>

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 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
 VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10059418 A1 20020620 DE 2000-10059418A 20001130
 AU 2002027931 A5 20020611 DE 2000-10059418 20001130
 AU 2002-27931 20011117
 DE 2000-10059418A 20001130
 WO 2001-EP13294W 20011117
 EE 200300183 A 20030616 EE 2003-183 20011117
 DE 2000-10059418A 20001130
 WO 2001-EP13294W 20011117
 EP 1339675 A1 20030903 EP 2001-989479 20011117
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 DE 2000-10059418A 20001130
 WO 2001-EP13294W 20011117
 US 2003013719 A1 20030116 US 2001-995771 20011129
 US 6605625 B2 20030812
 DE 2000-10059418A 20001130
 NO 2003002438 A 20030709 NO 2003-2438 20030528
 DE 2000-10059418A 20001130
 WO 2001-EP13294W 20011117

OS MARPAT 137:20297
 GI



AB Title compds. [I; A1-A8 = N, CH, CR5; whereby >4 of A1-A8 = CH; R1 = CO₂R₉, SO₂R₁₀, COR₁₁, C(O)NR₁₂R₁₃, C(S)NR₁₂R₁₃; R₉-R₁₂ = C_xH_{2x}R₁₄; x = 0-4; R₁₄ = alkyl, cycloalkyl, CF₃, C₂F₅, C₃F₇, CH₂F, CHF₂, OR₁₅, SO₂Me, (substituted) Ph, naphthyl, etc.; R₁₅ = alkyl, cycloalkyl, (substituted) Ph; R₁₃ = H, alkyl, CF₃; R₂ = H, alkyl, CF₃; R₃ = CyH_{2y}R₁₆, etc.; y = 0-4; R₁₆ = alkyl, cycloalkyl, CF₃, C₂F₅, C₃F₇, CH₂F, CHF₂, OR₁₇, SO₂Me, (substituted) Ph, naphthyl, etc.; R₁₇ = H, alkyl, cycloalkyl, (substituted) Ph, pyridyl; R₄ = H, alkyl, CF₃; or R₃R₄ = (O-, S-, NH-, N(methyl)-, N(benzyl)-interrupted) C₄-5 alkylene; R₅ = F, Cl, Br, I, CF₃, NO₂, cyano, CO₂Me, COMe, amino, OH, alkyl, alkoxy, etc.; R₃₀, R₃₁ = H, alkyl; or R₃₀R₃₁ = C₂ alkylene], were prepd. Thus, 1-[6-(2-aminomethylphenyl)pyridin-2-yl]-N-(4-methoxyphenyl)amide in CH₂Cl₂ was stirred with 4-methoxyphenylacetyl chloride and N-ethyldiisopropylamine

overnight to give 78% 1-[6-(2-[2-(4-methoxyphenyl)acetylamino]methylphenyl)pyridin-2-yl]-N-(4-methoxyphenyl)amide. Several I inhibited Kv1.5 human channel with IC50 = 2 - <100 .mu.M.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:573545 CAPLUS

DN 133:164327

TI Preparation of N-arylsulfonyl-O-[(tetrahydropyrimidinylcarbamoyl)propyl]tyrosine derivatives and analogs as vitronectin .alpha.v.beta.3 receptor inhibitors

IN Peyman, Anuschirwan; Knolle, Jochen; Scheunemann, Karlheinz; Will, David William; Carniato, Denis; Gourvest, Jean-Francois; Gadek, Thomas R.; Bodary, Sarah Catherine

PA Aventis Pharma Deutschland G.m.b.H., Germany; Genentech, Inc.

SO Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DT Patent

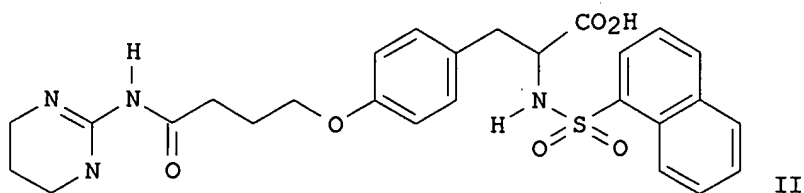
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1028114	A1	20000816	EP 1999-102916	19990213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2000047564	A1	20000817	WO 2000-EP895	20000204
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
				EP 1999-102916 A	19990213
	EP 1155003	A1	20011121	EP 2000-905022	20000204
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
				EP 1999-102916 A	19990213
				WO 2000-EP895 W	20000204
	JP 2002536438	T2	20021029	JP 2000-598485	20000204
				EP 1999-102916 A	19990213
				WO 2000-EP895 W	20000204
	US 6340679	B1	20020122	US 2000-502577	20000211
				EP 1999-102916 A	19990213

OS MARPAT 133:164327

GI



AB RNHC(:NR)NHCO(CH₂)₃ZZ₁CH₂CH(COR₂)NR₄SO₂R₁ [I; RR = (CH₂)₂₋₄; R₁ = (un)substituted (cyclo)alkyl, -(hetero)aryl(alkyl), etc.; R₂ = OH, (hydroxy)alkoxy, etc.; R₄ = H or alkyl; Z = CH₂, O, S, NR₄; Z₁ = (un)substituted phenylene, -pyridinediyl, -pyrimidinediyl, etc.] were prepd. as cell adhesion inhibitors. Thus, (S)-4-[HO₂C(CH₂)₃O]C₆H₄CH₂CH(NH₂)CO₂CMe₃ was N-acylated by 1-naphthalenesulfonyl chloride and the product amidated by 1,4,5,6-tetrahydropyrimidine-2-amine to give, after sapon., title compd. (S)-II. Data for biol. activity of I were given.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:511144 CAPLUS

DN 131:129989

TI Preparation of thiazole compounds as pest control agents and fungicides

IN Iihama, Teruyuki; Miyazawa, Masahiro; Miyahara, Osamu; Marumo, Shinji; Sano, Shinsuke; Hamamura, Hiroshi; Yokota, Chinami; Kawaguchi, Masahiro; Takahashi, Hidemitsu; Takagi, Masae

PA Nippon Soda Co., Ltd., Japan; et al.

SO PCT Int. Appl., 60 pp.

CODEN: PIXXD2

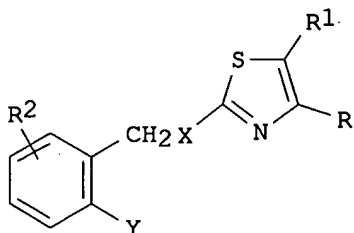
DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9940076	A1	19990812	WO 1999-JP473	19990204
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, KE, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
			JP 1998-24853	A 19980205
			JP 1998-371694	A 19981225
JP 11286488	A2	19991019	JP 1998-371695	19981225
			JP 1998-24853	A 19980205
AU 9922989	A1	19990823	AU 1999-22989	19990204
			JP 1998-24853	A 19980205
			JP 1998-371694	A 19981225
			WO 1999-JP473	W 19990204
JP 2000239264	A2	20000905	JP 1999-28489	19990205
			JP 1998-24853	A 19980205
			JP 1998-371694	A 19981225

OS MARPAT 131:129989
GI



I

AB Thiazole compds. I [R = (un)substituted thienyl, furyl, pyridyl, thiazolyl, pyrimidinyl, pyrazinyl, etc.; R1, R2 = H, halo, alkyl; X = O, S, SO, SO2; Y = C(:CHOMe)CO2Me, (MeO)NCO2Me, (EtO)NCO2Me] and their salts, useful as insecticides, acaricides, fungicides, and protozoacides, were prepd. Thus, reaction of 4-(4-methyl-2-pyridyl)-2-hydroxythiazole with Me (E)-3-methoxy-2-[2-(chloromethyl)phenyl]acrylate in DMF in the presence of K2CO3 at 90.degree. for 3 h gave 28% Me (E)-3-methoxy-2-[2-[4-(4-methyl-2-pyridyl)thiazol-2-yl]oxymethyl]phenyl]acrylate (II). II showed fungicidal activity against Erysiphe graminis at 200 ppm.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:77554 CAPLUS

DN 130:139363

TI Preparation of pyrazinedicarboxamides and analogs as hypoglycemics

IN Bashiardes, Georges; Carry, Jean-Christophe; Evers, Michel; Filoche, Bruno; Mignani, Serge

PA Rhone-Poulenc Rorer S.A., Fr.

SO PCT Int. Appl., 100 pp.

CODEN: PIXXD2

DT Patent

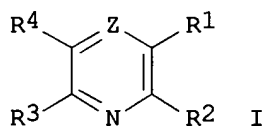
LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9903844	A1	19990128	WO 1998-FR1542	19980715
	W:	AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HR, HU, ID, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	FR 2766187	A1	19990122	FR 1997-9058	A 19970717
	FR 2766187	B1	20000602	FR 1997-9058	19970717
	AU 9888102	A1	19990210	AU 1998-88102	19980715
	AU 747127	B2	20020509	FR 1997-9058	A 19970717

EP 1001944	A1	20000524	WO 1998-FR1542 W 19980715
EP 1001944	B1	20031001	EP 1998-939676 19980715
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI			FR 1997-9058 A 19970717
JP 2001510188	T2	20010731	WO 1998-FR1542 W 19980715
			JP 2000-503069 19980715
			FR 1997-9058 A 19970717
NZ 501906	A	20020426	WO 1998-FR1542 W 19980715
			NZ 1998-501906 19980715
			FR 1997-9058 A 19970717
BR 9810880	A	20020521	WO 1998-FR1542 W 19980715
			BR 1998-10880 19980715
			FR 1997-9058 A 19970717
RU 2194703	C2	20021220	WO 1998-FR1542 W 19980715
			RU 2000-103449 19980715
			FR 1997-9058 A 19970717
ZA 9806337	A	19990127	WO 1998-FR1542 W 19980715
			ZA 1998-6337 19980716
			FR 1997-9058 A 19970717
NO 2000000198	A	20000114	NO 2000-198 20000114
			FR 1997-9058 A 19970717
US 6399613	B1	20020604	WO 1998-FR1542 W 19980715
			US 2000-483984 20000114
			FR 1997-9058 A 19970717
			WO 1998-FR1542 A119980715

OS MARPAT 130:139363
GI



AB Title compds. [I; 2 of R1-R4 = CONR5R6, CO(CH2OH)2, CH2OR6, etc. and the others = H; R6 = H or alkyl; R6 = CH2[CH(OH)]mCH2OH, (hydroxy)alkoxyalkyl, etc.; m = 0-4] were prep'd. Thus, di-Me pyrazine-2,5-dicarboxylate was amidated by H2NC(CH2OH)3 to give I [R1 = R3 = CONHC(CH2OH)3, R2 = R4 = H]. Data for biol. activity of I were given.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:124009 CAPLUS
DN **128:188622**
TI IL-8 receptor antagonists
IN Bryan, Deborah Lynn; Gleason, John Gerald; Widdowson, Katherine L.
PA Smithkline Beecham Corporation, USA; Bryan, Deborah Lynn; Gleason, John Gerald; Widdowson, Katherine L.
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9806398	A1	19980219	WO 1997-US14582	19970815
	W: JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE			US 1996-23972P P	19960815
	EP 939634	A1	19990908	EP 1997-938426	19970815
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL			US 1996-23972P P	19960815
				WO 1997-US14582W	19970815
	JP 2000516620	T2	20001212	JP 1998-510107	19970815
				US 1996-23972P P	19960815
				WO 1997-US14582W	19970815

OS MARPAT 128:188622

AB This invention relates to novel compds. and compns. useful in the treatment of disease states mediated by the chemokine, interleukin-8 (IL-8). A no. of general heterocyclic guanidine derivs. were given as examples.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:65906 CAPLUS

DN 128:140727

TI Preparation of substituted piperazinyl-phenyl-oxazolidinone derivatives as antibacterial agents

IN Betts, Michael John; Darbyshire, Catherine Jane

PA Zeneca Ltd., UK; Betts, Michael John; Darbyshire, Catherine Jane

SO PCT Int. Appl., 68 pp.

CODEN: PIXXD2

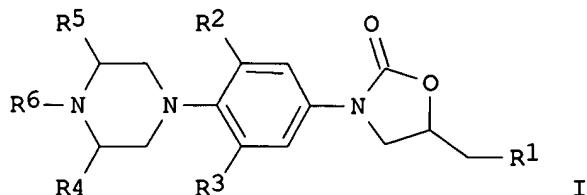
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9801446	A1	19980115	WO 1997-GB1767	19970701
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
				GB 1996-14238 A	19960706
	AU 9733520	A1	19980202	AU 1997-33520	19970701
				GB 1996-14238 A	19960706
				WO 1997-GB1767 W	19970701
	EP 918769	A1	19990602	EP 1997-929403	19970701
	R: CH, DE, FR, GB, IT, LI			GB 1996-14238 A	19960706
				WO 1997-GB1767 W	19970701
	JP 2000514083	T2	20001024	JP 1998-504900	19970701
				GB 1996-14238 A	19960706
				WO 1997-GB1767 W	19970701
	ZA 9705953	A	19980106	ZA 1997-5953	19970703
				GB 1996-14238 A	19960706

OS MARPAT 128:140727
GI



AB The title compds. [I; R1 = OH, Cl, F, etc.; R2, R3 = H, F; R4, R5 = H, Me; R6 = (un)substituted 6-membered heteroaryl ring contg. 2-3 ring nitrogen atoms as the only ring heteroatoms], useful as antibacterial agents, were prepd. Thus, reaction of N-[(5S)-3-[3-fluoro-4-(piperazin-1-yl)phenyl]-2-oxooxazolidin-5-ylmethyl]acetamide trifluoroacetate salt with 2-chloropyrimidine in the presence of Et3N in EtOH/H2O afforded (5S)-I [R1 = NHC(O)Me; R2 = F; R3-R5 = H; R6 = pyrimidin-2-yl] which showed MIC of 0.5 .mu.g/mL against Staphylococcus aureus (Oxford).

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:892828 CAPLUS

DN 123:286063

TI Preparation of vasoconstrictive dihydrobenzopyranpyrimidine derivatives

IN Van Lommen, Guy Rosalia Eugene; Wigerinck, Piet Tom Bert Paul; De Bruyn, Marcel Frans Leopold; Verschueren, Wim Gaston; Schroven, Marc Francis Josephine

PA Janssen Pharmaceutica N.V., Belg.

SO PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9505383	A1	19950223	WO 1994-EP2703	19940812
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, FI, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SI, SK, TJ, TT, UA, US, UZ, VN				
RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2168021	AA	19950223	CA 1994-2168021	19940812
EP 1993-202441 A 19930819				
EP 1993-202442 A 19930819				
EP 1993-202443 A 19930819				
AU 9476131	A1	19950314	AU 1994-76131	19940812
AU 677428	B2	19970424	EP 1993-202441 A 19930819	
EP 1993-202442 A 19930819				

BR 9407317	A	19960416	EP 1993-202443 A 19930819 WO 1994-EP2703 W 19940812 BR 1994-7317 19940812 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 WO 1994-EP2703 W 19940812 EP 1994-926191 19940812
EP 714396	A1	19960605	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 WO 1994-EP2703 W 19940812 CN 1994-193152 19940812
CN 1129451	A	19960821	EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 HU 1996-373 19940812 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 JP 1994-506752 19940812 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 WO 1994-EP2703 W 19940812
CN 1052006	B	20000503	RU 1996-105980 19940812 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 WO 1994-EP2703 W 19940812 CZ 1996-374 19940812 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 PL 1994-313082 19940812 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 WO 1994-EP2703 W 19940812
HU 74677	A2	19970128	SK 1996-195 19940812 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 WO 1994-EP2703 W 19940812 IL 1994-110687 19940817 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 ZA 1994-6269 19940818 EP 1993-202441 A 19930819 EP 1993-202442 A 19930819 EP 1993-202443 A 19930819 ZA 1994-6270 19940818 EP 1993-202441 A 19930819 EP 1993-202445 A 19930819 US 1996-586760 19960130
JP 09501916	T2	19970225	
RU 2129556	C1	19990427	
CZ 287771	B6	20010117	
PL 181385	B1	20010731	
SK 282402	B6	20020107	
IL 110687	A1	20010319	
ZA 9406269	A	19960219	
ZA 9406270	A	19960219	
US 5824682	A	19981020	

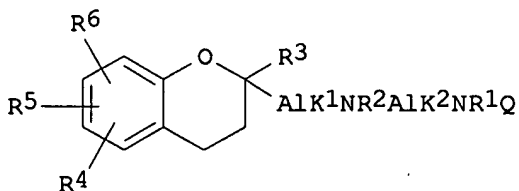
FI 9600723	A	19960216	EP 1993-202441 A 19930818
			EP 1993-202442 A 19930819
			EP 1993-202443 A 19930819
			WO 1994-EP2703 W 19940812
			FI 1996-723 19960216
			EP 1993-202441 A 19930819
			EP 1993-202442 A 19930819
			EP 1993-202443 A 19930819
NO 9600649	A	19960219	WO 1994-EP2703 W 19940812
			NO 1996-649 19960219
			EP 1993-202441 A 19930819
			EP 1993-202442 A 19930819
			EP 1993-202443 A 19930819
US 6100268	A	20000808	WO 1994-EP2703 W 19940812
			US 1998-123893 19980728
			EP 1993-202441 A 19930819
			EP 1993-202442 A 19930819
			EP 1993-202443 A 19930819
			US 1996-586760 A119960130

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FAN 1995:606716

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9505366	A1	19950223	WO 1994-EP2702	19940812
	W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, FI, GE, HU, JP, KE, KG, KP,				
	KR, KZ, LK, LT, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SI,				
	SK, TJ, TT, UA, US, UZ, VN				
	RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC,				
	NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
				EP 1993-202444 A 19930819	
				EP 1993-202445 A 19930819	
CA 2168023	AA	19950223	CA 1994-2168023	19940812	
			EP 1993-202444 A 19930819		
			EP 1993-202445 A 19930819		
AU 9476130	A1	19950314	AU 1994-76130	19940812	
AU 682396	B2	19971002			
			EP 1993-202444 A 19930819		
			EP 1993-202445 A 19930819		
			WO 1994-EP2702 W 19940812		
EP 714388	A1	19960605	EP 1994-926190	19940812	
EP 714388	B1	19980415			
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			WO 1994-EP2702 W 19940812		
CN 1129935	A	19960828	CN 1994-193180	19940812	
CN 1066718	B	20010606			
			EP 1993-202444 A 19930819		
			EP 1993-202445 A 19930819		
BR 9407313	A	19961008	BR 1994-7313	19940812	
			EP 1993-202444 A 19930819		
			EP 1993-202445 A 19930819		
			WO 1994-EP2702 W 19940812		
HU 73977	A2	19961028	HU 1996-349	19940812	
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			EP 1993-202445 A 19930819		
JP 09502962	T2	19970325	JP 1994-506751	19940812	

			EP 1993-202444 A 19930819
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			WO 1994-EP2702 W 19940812
AT 165091	E	19980515	AT 1994-926190 19940812
			EP 1993-202444 A 19930819
			EP 1993-202445 A 19930819
PL 179008	B1	20000731	PL 1994-313081 19940812
			EP 1993-202444 A 19930819
			EP 1993-202445 A 19930819
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RU 2158126	C2	20001027	RU 1996-105988 19940812
			EP 1993-202444 A 19930819
			EP 1993-202445 A 19930819
			WO 1994-EP2702 W 19940812
IL 110689	A1	19981227	IL 1994-110689 19940817
			EP 1993-202444 A 19930819
			EP 1993-202445 A 19930819
ZA 9406270	A	19960219	ZA 1994-6270 19940818
			EP 1993-202441 A 19930819
			EP 1993-202445 A 19930819
US 5677310	A	19971014	US 1996-612849 19960205
			EP 1993-202444 A 19930819
			EP 1993-202445 A 19930819
			WO 1994-EP2702 W 19940812
FI 9600722	A	19960216	FI 1996-722 19960216
			EP 1993-202444 A 19930819
			EP 1993-202445 A 19930819
			WO 1994-EP2702 W 19940812
NO 9600648	A	19960219	NO 1996-648 19960219
			EP 1993-202444 A 19930819
			EP 1993-202445 A 19930819
			WO 1994-EP2702 W 19940812
US 5801179	A	19980901	US 1997-867870 19970602
			EP 1993-202444 A 19930819
			EP 1993-202445 A 19930819
			US 1996-612849 A319960205
OS	MARPAT 123:286063		
GI			

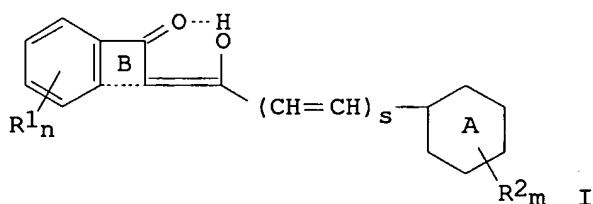


AB Title compds. I (R1, R2, R3 = H, C1-6 alkyl; R4 = H, halo, C1-6 alkyl, HO, C1-6 alkyloxy, aryloxy, arylmethoxy; R5, R6 = H, CH:CHCH:CH, (CH2)n, (CH2)mX, wherein n = 3,4, m = 2,3, X = O, S, SO, SO2, CO, R7N wherein R7 = H, C1-6 alkyl, C1-6 alkylcarbonyl, C1-6-SO, HC.tplbond.C, (substituted) heterocyclyl, etc.; Alk1 = C1-5 alkanediyl; Alk2 = c2-15 alkanediyl; Q =

(substituted) heterocyclyl), a salt or stereochem isomer thereof, are prepd. (.+-.)-2,3,4,7,8,9-Hexahydrobenzo[2,1-b:3,4-b']dipyran-2-carboxaldehyde and N-2-pyrimidinyl-1,2-proanediamine were hydrogenated with Pd/C to give after workup I ($R_1 = R_2 = R_3 = H$, $Alk_1 = H_2C$, $Alk_2 = (CH_2)_3$, $Q = 2\text{-pyrimidinyl}$)-ethanedioate (1:2) (II). Vasoconstriction activity wherein serotonin-like response tested on basilar arteries of pigs was detd. The lowest active concn. defined as the concn. at which 50% of the response to serotonin for II was $3.10^{-8}M$. Pharmaceutical formulations comprising I are given.

L8 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1992:479637 CAPLUS
 DN **117:79637**
 TI Nonlinear optical material containing 1,3-diketone derivative
 IN Nakamura, Satoshi; Imahashi, Satoshi
 PA Toyobo Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04044016	A2	19920213	JP 1990-153108	19900612
				JP 1990-153108	19900612
OS	MARPAT 117:79637				
GI					



AB The material contains I ($R_1, R_2 = NH_2$, C1-12 substituted amino, alkyl, alkoxy, mercaptoalkoxy, halo, carboxy, carboxylate ester, C1-12 alkanoyloxy, NO_2 , CN, alkanoamide; $n, m = 1-5$; A = arom. hydrocarbon residue, heteroarom. cycle; B = C5-7 ring; $s = 0-4$). The material shows high second harmonic generation.

L8 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1988:630806 CAPLUS
 DN **109:230806**
 TI Preparation of 4-(heterocyclyl)chroman derivatives as cardiovascular agents
 IN Haeusler, Guenther; Gericke, Rolf; Wurziger, Hanns; Baumgarth, Manfred; Lues, Inge; De Peyer, Jacques; Bergmann, Rolf
 PA Merck Patent G.m.b.H., Fed. Rep. Ger.
 SO Ger. Offen., 13 pp.
 CODEN: GWXXBX
 DT Patent
 LA German

FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3726261	A1	19880707	DE 1987-3726261	19870807
				DE 1986-3644094A1	19861223
	EP 273262	A2	19880706	EP 1987-118275	19871210
	EP 273262	A3	19891206		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
				DE 1986-3644094A	19861223
				DE 1987-3726261A	19870807
	AU 8782689	A1	19880623	AU 1987-82689	19871216
	AU 604809	B2	19910103		
				DE 1986-3644094A	19861223
				DE 1987-3726261A	19870807
	HU 48621	A2	19890628	HU 1987-5958	19871222
	HU 207728	B	19930528		
				DE 1987-3726261	19870807
				DE 1986-3644094	19861223
	JP 63170376	A2	19880714	JP 1987-324247	19871223
	JP 2523343	B2	19960807		
				DE 1986-3644094A	19861223
				DE 1987-3726261A	19870807
	ZA 8709671	A	19880831	ZA 1987-9671	19871223
				DE 1986-3644094A	19861223
	US 5387587	A	19950207	US 1991-766725	19910927
				DE 1986-3644094A	19861223
				DE 1987-3726261A	19870807
				US 1987-137201 B1	19871223
				DE 1988-3815504A	19880506
				DE 1988-3820506A	19880616
				DE 1988-3835011A	19881014
				US 1989-347710 A3	19890505
				US 1989-367281 B1	19890615
				US 1989-420978 B2	19891013
				US 1991-655190 B2	19910213
				US 1991-657941 B2	19910221
				US 1991-660080 B2	19910225
				US 1991-766362 B2	19910926
	US 6040308	A	20000321	US 1994-330957	19941028
				DE 1986-3644094A	19861223
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				DE 1986-3644094A	19861223
				DE 1987-3726261A	19870807
				US 1987-137201 B1	19871223

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 DE 1988-3820506A 19880616
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 US 1989-347710 A319890505
 US 1989-367281 B119890615
 US 1989-420978 B219891013
 US 1991-655190 B219910213
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 US 1991-766362 B219910926
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PATENT FAMILY INFORMATION:

FAN 1990:142632

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4895640	A	19900123	US 1989-308591	19890210
	CA 2007264	AA	19900810	CA 1990-2007264	19900105
				US 1989-308591 A	19890210
	CA 2008717	AA	19900810	CA 1990-2008717	19900126
				US 1989-308590 A	19890210
				US 1989-308591 A	19890210
				US 1989-436272 A	19891114
	AU 9049010	A1	19900816	AU 1990-49010	19900201
				US 1989-308590 A	19890210
				US 1989-308591 A	19890210
				US 1989-436272 A	19891114
	EP 384906	A1	19900829	EP 1990-850045	19900202
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL			US 1989-308591 A	19890210
	EP 387219	A1	19900912	EP 1990-850046	19900202
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE			US 1989-308590 A	19890210
				US 1989-308591 A	19890210
				US 1989-436272 A	19891114
	JP 02235992	A2	19900918	JP 1990-28581	19900209
				US 1989-308591 A	19890210
	JP 04126550	A2	19920427	JP 1990-28582	19900209
				US 1989-308590 A	19890210
				US 1989-308591 A	19890210
				US 1989-436272 A	19891114
	US 5154726	A	19921013	US 1991-657941	19910221
				US 1989-308590 B219890210	
				US 1989-308591 B219890210	
				US 1989-436272 B119891114	

FAN 1990:216696

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 340718	A1	19891108	EP 1989-107923	19890502
	EP 340718	B1	19940720		
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	DE 3815504	A1	19891116	DE 1988-3815504	19880506
	DE 3835011	A1	19900419	DE 1988-3835011	19881014
	AU 8933901	A1	19891109	AU 1989-33901	19890501
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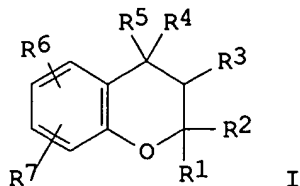
JP 01319481	A2	19891225	DE 1988-3815504A	19880506
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ES 2057010	T3	19941016	DE 1988-3835011A	19881014
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DK 8902232	A	19891107	DE 1988-3835011A	19881014
			DK 1989-2232	19890505
			DE 1988-3815504A	19880506
FI 8902182	A	19891107	DE 1988-3835011A	19881014
FI 93358	B	19941215	FI 1989-2182	19890505
FI 93358	C	19950327		
			DE 1988-3815504A	19880506
NO 8901866	A	19891107	DE 1988-3835011A	19881014
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NO 174467	C	19940511		
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			ZA 1989-3341	19890505
HU 56094	A2	19910729	DE 1988-3815504A	19880506
HU 207311	B	19930329	HU 1989-2189	19890505
			DE 1988-3815504A	19880506
AU 8942565	A1	19900426	DE 1988-3835011A	19881014
AU 628395	B2	19920917	AU 1989-42565	19891004
EP 363883	A1	19900418	DE 1988-3835011A	19881014
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE			EP 1989-118755	19891009
			DE 1988-3835011A	19881014
DK 8905110	A	19900415	DK 1989-5110	19891013
			DE 1988-3835011A	19881014
NO 8904103	A	19900417	NO 1989-4103	19891013
NO 174422	B	19940124		
NO 174422	C	19940504		
			DE 1988-3835011A	19881014
JP 02145584	A2	19900605	JP 1989-265360	19891013
JP 2874912	B2	19990324		
			DE 1988-3835011A	19881014
ZA 8907783	A	19910731	ZA 1989-7783	19891013
			DE 1988-3835011A	19881014
HU 58082	A2	19920128	HU 1989-5311	19891013
HU 217812	B	20000428		
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FAN 1990:423696				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI DE 3820506	A1	19891221	DE 1988-3820506	19880616
EP 346724	A1	19891220	EP 1989-110177	19890606
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			US 1994-330957 A119941028

OS MARPAT 109:230806
GI



AB The title compds. [I; R1 = C1-6 alkyl; R2 = H, R1; R1R2 = C3-6 alkylene; R3 = OH, OAc; R4 = H; R3R4 = bond; R5 = (substituted) (partially reduced) pyridonyl, pyridazinonyl, pyrimidinonyl, pyrazinonyl, thiopyridonyl; R6, R7 = H, R1, OH, alkoxy, CHO, HO2C, hydroxyalkyl, carbamoyl, etc.] and their salts were prepd. as cardiovascular agents (no data).
2,2-Dimethyl-3,4-epoxy-6-cyanochroman, 2-pyridone, and NaH were stirred 16 h in DMSO at 70.degree. to give a 9:7 mixt. of 2,2-dimethyl-4-(1H-2-pyridon-1-yl)-6-cyano-2H-chromene (II) and 2,2-dimethyl-4-(1H-2-pyridon-1-yl)-6-cyanochroman-3-ol (III). Formulations contg. II and III were prepd.

=> log y

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
268.19	429.51

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-39.06	-39.06

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STN INTERNATIONAL LOGOFF AT 07:43:43 ON 17 NOV 2003